FM 6-0

Mission Command: Command and Control of Army Forces

Approved Final Draft

October 2002

Headquarters, Department of the Army

The material in this manual is under development. It is NOT approved doctrine and CANNOT be used for reference or citation. The approved FM is still current and must be used for reference or citation until the doctrinal review and approval group process approves this draft.

Field Manual
No. 6-0
(Approved Final Draft)

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Contents

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*This publication supersedes the following portions of FM 101-5, 31 May 1997: Chapters 1–4 and 6, and Appendixes G and I through L.

Preface

PURPOSE

FM 6-0, *Command and Control*, establishes and explains the Army's command and control (C2) doctrine; it provides the basis for C2 doctrine in all Army publications. It promotes common understanding of the fundamentals and concepts of C2 in Army operations, and supports joint and Army doctrine. It includes Chapters 1-4 and 6 and Appendices G, I, K, and L formerly found in FM 101-5, which it supercedes. The other parts are being revised as FM 5-0. Upon approval of this manual, the terms introduced or modified will be included in FM 1-02.

SCOPE

This publication provides doctrine on C2 for tactical echelons of command in the Army up through corps. FM 6-0 establishes mission command as the C2 concept for the Army. It focuses on the premise that commanders exercise C2 over forces to accomplish missions. It emphasizes fundamentals and concepts rather than specific equipment or systems, although it discusses the role of equipment and systems in supporting C2. It includes insights from Force XXI initiatives and digitization. Supporting and extending leadership doctrine found in FM 6-22, it defines control within C2 and covers decision making during execution. This FM provides doctrine for one contributor to Information Superiority (IS)— Information Management (IM). While intelligence is an information product essential in C2, the doctrine addressing information and information management is not intended to change or replace intelligence doctrine in the FM 2-xx series (FM 34-series) of manuals.

APPLICABILITY

This publication applies to the Army, with focus on tactical commanders and leaders up through corps. With appropriate modifications, it can apply to other Army commands and to Army elements of joint and combined headquarters. It also applies to digitized, analog, and hybrid (combination digitized/analog) units and organizations. Reference to applicable publications exists where appropriate.

ADMINISTRATIVE INFORMATION

The proponent of this publication is Headquarters, TRADOC. Send comments and recommendations on DA Form 2028 directly to Commander, US Army Combined Arms Center and Fort Leavenworth, Combined Arms Doctrine Directorate, ATTN: ATZL-FD-CD (FM 6-0), 1 Reynolds Avenue, Bldg. 111, Fort Leavenworth, KS 66027-1352.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

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Cross-references use the new field manual numbering system. The bibliography lists field manuals by new number followed by old number.

The glossary lists most terms used by FM 6-0 that have joint or Army definitions. Terms for which FM 6-0 is the proponent manual (the authority) are indicated with an asterisk. The glossary does not contain these definitions, but lists the numbers of paragraphs where terms are defined. Definitions for which FM 6-0 is the proponent manual are printed in boldface in the text. Other definitions are not printed in boldface. Partial definitions of some terms for which FM 6-0 is not the proponent manual are provided in text boxes. See JP 1-02 for complete definitions and FM 1-02 for Army definitions.

Introduction

The commander uses command and control (C2) as an essential element of the art and science of warfare. No single specialized function, either by itself or in combination with any of the others, would be purposeful without command and control. Command and control is chiefly the responsibility of commanders; it is also of great concern to staff officers and some specialists on the staff. C2 is sometimes understood as a distinct and specialized function such as logistics, intelligence, or information operations, having its own particular procedures, considerations, and vocabulary, operating distinctly yet in coordination with other such functions. In fact, through C2 the commander initiates and integrates all military functions and operations toward a common goal: mission accomplishment.

How one understands command and control depends on the perspective from which one approaches the study. Some people study and discuss C2 as technological means and resources. Others see C2 as people only, while still others focus on C2 as an organization. Finally, C2 has also been discussed as a set of procedures. *In practice, C2 is a commander and a C2 system—a combination of people, organization, technological means and resources, and procedures.* Commanders have executed C2 throughout history, although until recently it was simply "command." Nevertheless, they have performed many of the same C2 functions as long as warfare has existed. For example, Alexander the Great exercised C2 as long ago as in 331 BC at the battle of Arbela, as described below.


The Battle Of Arbela (331 BC)

In *The Anabasis*, Arrian writes of Alexander the Great's generalship: "He was...most brilliant to seize the right course of action, even where all was obscure; and where all was clear, most happy in his conjectures of likelihood; most masterly in marshaling an army and in arming and equipping it; and in uplifting his soldiers' spirits and filling them with good hopes and brushing away anything fearful in dangers by his own want of fear... And all that had to be done in uncertainty he did with utmost daring; he was most skilled in swift anticipation and gripping of his enemy before anyone had time to fear the event..." These traits were clearly exhibited in his brilliant victory over the Persians and King Darius at the Battle of Arbela (Gaugamela).

For four days prior to the battle, Alexander rested and fed his men. He slept soundly on the eve of the battle, instilling in his men confidence of victory, despite the Persians' outnumbering them by more than five to one. When the two armies lined up opposite each other on the plain near Gaugamela, the Persian lines extended well beyond Alexander's. Alexander assumed (rightly) that Darius would try to outflank him, and he responded by stationing his phalanx in the center and strongly supporting his flanks with deep formations turned at 45 degrees to prevent their encirclement. Alexander's order of battle and the tactics emerging from it, arranged in accordance with his foresight into the enemy's intentions, was a major factor in gaining victory.
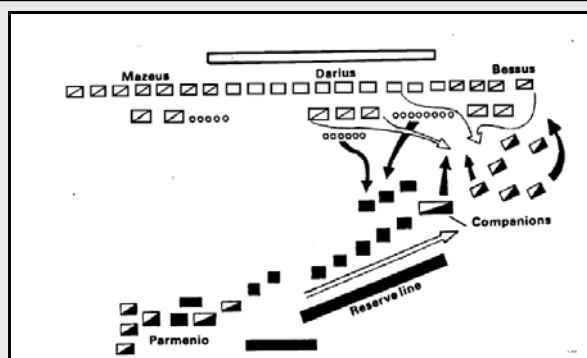
As the battle began, Alexander moved to his right, both to position his infantry opposite Darius' chariots and to reduce the Persian overlap of his flank. Darius attacked Alexander's right and, assuming that Alexander would be fully engaged there, ordered the entire Persian cavalry line to advance in two enveloping attacks. This maneuver, however, created a gap in the Persian front. Demonstrating superb command instincts, Alexander immediately exploited the opportunity. He wheeled toward the gap, making a wedge of the Companion cavalry and part of the phalanx; he personally led the charge. As Alexander closed in on the decisive point—Darius himself—Darius fled the field, and the Persian center disintegrated.
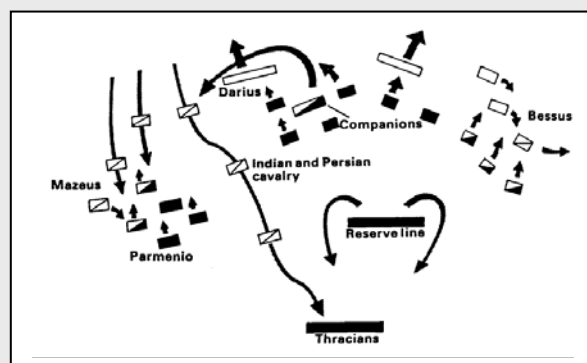
Meanwhile, Alexander's advance created its own gap—in the Greek center. The Persian Guard and Indian cavalry quickly penetrated there. Alexander turned the Companions immediately to lead them across to the other side of the battle to aid the left flank—evidence of his extraordinary control. The Persian Guard was defeated. When the Persian force and their allies learned that Darius had fled, most of them quit the battlefield.

Command and control, as opposed to simply command, first entered the Army's terminology during WW II; before then, the word "command" included those functions associated with control today. From 1977 on, C2 was one of the battlefield operating systems (BOS) by which the Army reviewed preparation or execution of

operations in discrete subsets. Previously, editions of FM 3-0 and FM 5-0 have discussed C2, and individual doctrinal FMs contain discussions of C2 as part of another, larger doctrinal statement. FM 7-15 lists the Army tactical tasks associated with the C2 battlefield operating system.

The term command and control is well known throughout the Army, but it is not well understood. The Army has struggled to find a definition that accurately portrays what a commander does in battle and in training. The Army defines "command" as what a commander needs to do to get his force to accomplish the mission; it evolved to "command and control." Trying to encompass everything in a description lost the meaning of command and consideration of the art of command. Nevertheless, the term is well established in current and emerging joint doctrine. Army doctrine follows joint doctrine, and Army forces operating as part of a joint force must follow joint doctrine; however, the nature of land combat operations has special and specific requirements for command and control that Army doctrine for C2 must answer.

This manual gathers the scattered parts of C2 doctrine found previously in multiple sources, such as branch and echelon FMs, into one FM that goes beyond them in detail. It provides a common guide for schools and centers in writing their C2 doctrine in branch and echelon manuals for which they are proponents. It uses the term command and control to identify what a commander does and how he executes his task of leading his unit to accomplish its mission. While leadership values, characteristics, skills, and actions are vital to the exercise of C2, the FM goes beyond the discussion of leadership in FM 6-22. Commanders use C2 to plan, prepare for, and execute the other tactical tasks, synchronize activities among them, and continually assess the situation or conduct of operations throughout these activities. Without C2, the other tactical tasks cannot commence or be synchronized with one another. This FM also discusses the C2 system's impact on prioritization of resources. The most important resource in any army is its people, especially the commander, who must be organized to undertake and complete military activities[(S) Capps]. Chapter 1 introduces and discusses command and control. This discussion includes the definition, nature, and importance of C2. This chapter also discusses the relationship between "command" and "control" in C2, the components, the environment affecting the exercise of command and control, and mission command as the Army's preferred concept of C2.

While this manual discusses the aspects of C2—command and control—separately, it emphasizes that exercising C2 is not a phased application of each but rather a continuous application of both within a single, continuous process. For analysis, however, this FM discusses command and control separately in detail. The principal aspect of command and control is command. As the definition of C2 in Chapter 1 notes, only a properly designated commander may exercise C2; therefore, the commander is the locus of authority for effective C2, and he focuses C2 to support himself in conducting military operations. The commander's use of C2 reflects an underlying philosophy and style. The tactics, techniques, and procedures associated with C2 in war also apply to stability operations and support operations and to Army organizations in peacetime. Army doctrine for C2 emphasizes the importance of personal command and a strong C2 concept oriented on the doctrine for Army operations, linked to a supporting C2 system. Chapter 2 fully discusses the nature and the art of command.

While the term control is explicitly stated in C2, the concept has always been inherent in the previous meaning and practice of command. In the example earlier in this introduction, Alexander's use of visual observation, assessment of the meaning of the gap, and direction of his cavalry force to exploit opportunity against the critical weakness in the Persian army illustrate the concept and role of control in C2. The concept of control has received attention in other doctrinal publications in their general discussion of C2, but those discussions have been inconsistent with one another. Armywide doctrine needed to develop a distinct definition and concept of control within the overall concept of C2.

The impediments to mission accomplishment—that Clausewitz identified as fog and friction—act before, during, and after operations to prevent friendly forces from achieving their commander's intent and to create the requirement for control. Singly or in combination, they all act against the force accomplishing the mission, and they will always exist because uncertainty cannot be removed from the battlefield—about both enemy and friendly forces. Fog and friction often cause the execution of operations to deviate from the commander's intent. Control identifies and counters their effects on accomplishing the missions by alerting the commander to adjust the forces' resources, concept, or objectives. Control also alerts the commander to opportunities to exploit success. Chapter 3 fully discusses the nature and science of control.

The commander is the key to C2. His knowledge, experience, and personality define command, along with how he interacts with his unit. The commander must decide what to do using the best method, then lead his unit to accomplish the mission. Foremost among his roles is combining the art of command and the science of control. Central to his success in this role is the process of commander's visualization. The commander drives the process; in mission command, however, commanders use influencing actions, normally issuing broad guidance rather than detailed directions or directives. They use close personal supervision to intervene in subordinates' actions only in exceptional cases. They establish a positive command climate for the unit, train subordinates in C2, and use battle command to direct operations. Chapter 4 discusses the role of the commander.

At every level of command, the command and control system provides support to a commander to exercise C2 effectively. The term "system" is deceptive. It does not solely mean an arrangement of equipment, such as a communication system. Rather, it is an organization of all resources used to support the commander's exercise of C2. The art exercised by the commander with respect to the C2 system truly lies in his expert integration of all elements of the C2 system to best serve his needs to pursue mission accomplishment. The elements of a C2 system must also form a cohesive whole so that the resources dedicated to C2 are not wasted on duplication. The resources that the commander must devote, acquire, or receive to create a C2 system that fulfills C2 functions are the topic of Chapter 5.

The commander must place the C2 system into action to exercise C2. Exercising C2 is a dynamic process that takes place through assessing, planning, preparing for, and executing military operations. While these activities are cyclical and continuous, they do not necessarily occur sequentially. All units in operations perform varying levels of planning, preparing, and executing; assessing takes place throughout the other three activities and provides feedback for decision making. Chapter 6 elaborates doctrine for exercising C2.

Chapter 1

Command and Control

The commander's essential task is to exercise command and control (C2) of military forces, using the art and science of warfare. The C2 system enables him to use his authority to fulfill command responsibilities for mission accomplishment and the health and welfare of his subordinates. The C2 system allows the commander to influence the actions of his forces and impose his will on the enemy. Through C2, he initiates the actions of, influences, and synchronizes the

elements of combat power to achieve desired effects on the enemy. The role of the commander is critical for successful command and control.

NATURE OF COMMAND AND CONTROL

1-1. To exercise effective C2, it is necessary first to understand its fundamental nature. This includes its definition, its importance and purpose, the relationship between individual aspects of command and control within C2, the elements of C2, and the C2 process.

DEFINITION OF COMMAND AND CONTROL

1-2. **Command and control is the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. He performs C2 functions through a C2 system.** This definition leads to several conclusions:

- The goal of C2 is mission accomplishment. The main criterion of success for C2 is how it contributes to achieving that goal. Other criteria may include positioning for future operations and using resources effectively.
- The object of C2 is forces—combat, combat support (CS), and combat service support (CSS).

- The commander exercises authority and direction over those forces made available to him through establishing command or support relationships (see FM 3-0).
- The commander must dedicate and organize resources, including forces, to exercise C2. C2 is how the commander decides to arrange, and how he then directs, his forces in action.
- The commander uses these forces and resources to plan, prepare for, and execute operations (continuously assessing).

1-3. Figure 1-1 represents command and control visually and depicts the organizing principle of Army C2 doctrine. The focus of C2 is the commander. He determines what to do and directs actions. C2 is a continuous process; the staff must analyze what is happening, even if unexpected, and develop appropriate solutions for the commander's decision.
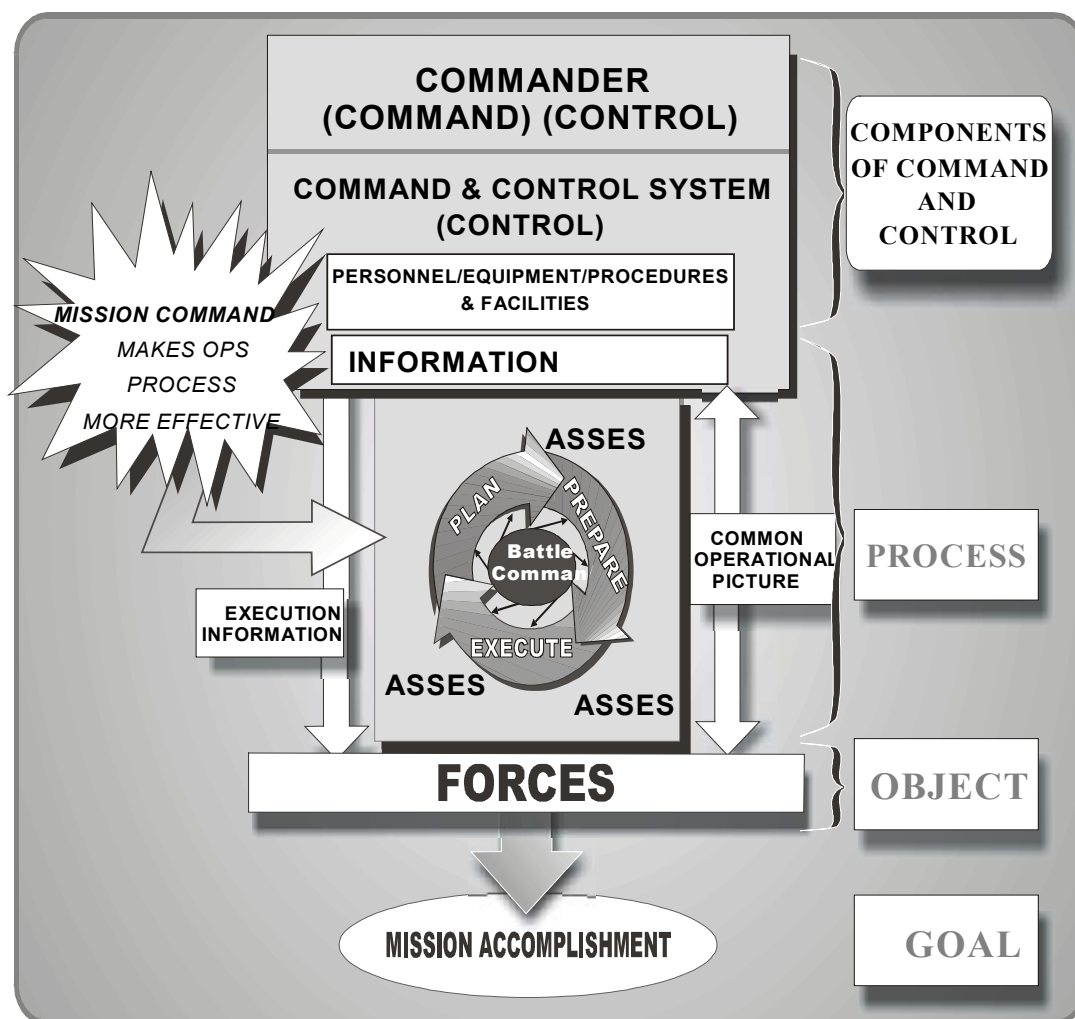

Figure 1-1. Command and Control

1-4. Effective C2 demonstrates the following characteristics:

- Ability to identify and react to changes in the situation.
- Ability to provide a continuous, interactive process of reciprocal influence between the commander, the staff, and available forces.
- Ability to mitigate chaos and reduce uncertainty.

However, even units with the most effective C2 cannot eliminate uncertainty and create precise, mechanistic, predictable order.

1-5. The commander—through the C2 system—uses the decision making process to establish his intent and allocate resources. To implement his decisions, he directs coordinated actions by subordinate forces to tasks that collectively represent mission accomplishment. The staff supports the commander's decisions by using C2 processes. It uses information management (IM) to collect, process, display, store, and disseminate relevant information (RI) to build a common operational picture (COP)—defined and discussed further in Chapter 3—to determine requirements. Finally, the commander, assisted by the staff, observes execution and adjusts the plan in a dynamic environment where unexpected opportunities and threats present themselves.

1-6. Of all the battlefield operating systems (BOS), only C2 integrates all the others. Even though it involves no killing, no detection, and no resupply, C2 is a force multiplier and a vital component of mission accomplishment in that it—

- Gives purpose and direction to military operations.
- Integrates subordinate and supporting forces to allow separate activities to achieve coordinated effects.
- Determines force responsiveness and allocates resources.

RELATIONSHIP BETWEEN COMMAND AND CONTROL

1-7. Command and control are interrelated. Command resides with the commander; it consists of authority, decision making, and leadership. Command is mostly art but some science. Control is how the commander executes command. It is mostly science but also art. Science deals with the study and method involving a body of facts and processes based on principles from the physical or material world. Art, as opposed to science, requires expert performance of a specific skill using intuitive faculties that cannot be solely learned by study or education. Doctrine cannot be reduced to science but is inherently art. There is a science component, which deals with the capabilities and limitations of the physical means used in operations. Knowledge of this science, coupled with experience and training, forms the basis for art in the human judgment necessary when applying it to a specific situation.

1-8. Only a commander can exercise command. He cannot exercise command effectively without control. Conversely, control has no function without command to focus it. Command is primary, but insufficient without control. C2 is not a unidirectional, top-down concept with control imposed on subordinates. It is a multidirectional process, with feedback influencing the commander from below, from above, and laterally.

1-9. Command focuses the organization and the practice of science within control, while control informs the exercise of art within command and regulates the organization's functions. Command functions and related requirements remain comparatively constant with the increase in organizational complexity as one moves up the echelons from company to corps, but control functions increase with each higher echelon. Therefore, at higher echelons, the roles of staff and other elements of the C2 system increase, and the impact of the commander becomes more indirect. In turn, the commander must increasingly apply organizational leadership skills and actions. (See FM 6-22 for a discussion of the levels of leadership.)

Command

1-10. Command is the authority that a commander in the Armed Forces [sic] lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel (JP 1-02). The elements of command are—

- Authority
- Decision making
- Leadership

1-11. The commander uses his authority as he exercises the art of deciding (planning how to achieve the end state) and leading (his forces during preparation and execution).

- *Authority*. **Authority is the delegated power to judge, act, or command.** It includes responsibility, accountability, and delegation.
- *Decision making*. **Decision making is selecting a course of action (COA) as the one most favorable to accomplish the mission.** It translates the commander's vision into action. It includes knowing if to decide, then when and what to decide and understanding the consequences of decisions. Decision making is both art and science. The commander uses visualizing, describing, and directing to determine and communicate the decision.
- *Leadership*. **Leadership is influencing people—by providing purpose, direction, and motivation—while operating to accomplish the mission and improving the organization.** FM 6-22 provides Army doctrine on leadership in detail. Commanders must lead through a combination of example, persuasion, and compulsion. The leadership of commanders ultimately includes force of will.

1-12. In any specific organization, only one officer can command. This is embodied in the Principle of War, Unity of Command. The commander may exercise command through others by delegating authority; however, delegation does not absolve the commander of his responsibilities to his higher commander. Command initiates action by all other elements of combat power, by issuing lawful orders or commands. Chapter 2 discusses and describes command.

Control

1-13. **Control is the regulation of forces and other battlefield operating systems (BOS) to accomplish the mission in accordance with the commander's intent. It includes collecting, processing, displaying, storing, and disseminating relevant information for creating the common operational picture and using information during the operations process.**

1-14. The elements of control are—

- Information
- Communication
- Structure

1-15. Control allows the commander to disseminate his intent, execute decisions, and adjust his operations to reflect changing reality and enemy actions. This allows the commander to modify his visualization for the current state, the end state, or the process of getting from the current state to the end state. Control can further identify times and points requiring new decisions during operations.

- *Information.* The most important element of control is information; it is the most important C2 resource available to the commander. Intelligence is an important and unique subset of information in C2; it falls across the scope of the different levels of information, and is integrated in C2. Information (to include intelligence) from all echelons generates the COP, and all users share it. By applying judgment to the COP, the commander can achieve situational understanding and begin decision making. The commander directs by disseminating execution information, typically as orders and plans, and receives feedback from subordinates and supporting forces in the process. This bi- or omnidirectional information flow creates a reciprocal influence among the commander and subordinate forces. Appendix B discusses information.
- *Communication.* Communication allows the organization to disseminate and share information from one person, element, or place to another. Information for control flows vertically and horizontally. This is a critical step to achieve effective C2.
- *Structure.* The commander creates control through **structure, a defined organization—establishing relationships among its elements—or procedure—establishing relationships among activities.** This structure or organization is both internal (headquarters structure—CPs) and external (command and support relationships) among subordinate forces. Relationships among activities may likewise be both internal (techniques, procedures) or external (tactics, plan).

1-16. Success in command is impossible without control. Chapter 3 discusses and describes control.

COMPONENTS OF COMMAND AND CONTROL

1-17. C2 consists of two components: the commander and the C2 system. (See Figure 1-1.) The commander uses the command and control system to exercise C2 over forces to accomplish missions.

The Commander

1-18. At all levels, the commander is the key individual in command and control. The commander must combine the art of command and the science of control to achieve effective C2. He creates a positive command climate to inculcate and foster trust and mutual understanding, trains his subordinates in C2, and, using the C2 system, exercises C2 to direct operations. The commander remains the focal point for penetrating the fog of war, overcoming its unceasing friction, and instilling in his soldiers the will to win against any opponent. Chapter 4 discusses the role of the commander.

1-19. Commanders, assisted by the staff, **visualize** the operations, **describe** it in terms of intent and guidance, and **direct** the actions of subordinates within their intent. Commanders cannot visualize the battlefield, direct, and synchronize their unit's efforts from their computer screen at the command post (CP). They directly influence operations by personal presence, supported by their C2 system.

Command and Control System

1-20. **The command and control system is the arrangement of personnel, information management, procedures, and equipment and facilities essential to the commander to conduct operations**. A commander cannot exercise C2 alone except in the simplest and smallest of units. Even at the lowest levels, closer study reveals that a commander needs support, however little, to exercise C2 effectively. At every echelon of command, the C2 system provides that support.

- Personnel. The C2 system begins with people. Since combat involves soldiers, no amount of technology can reduce the importance of the human dimension. Therefore, the commander must base his exercise of C2 on human characteristics rather than on equipment and procedures. Trained C2 personnel are key to effective C2 systems; the best technology cannot support C2 without them.
- Information management (IM). IM is the provision of relevant information to the right person at the right time in a usable form to facilitate situational understanding and decision making. It uses procedures and information systems to collect, process, store, display, and disseminate information (FM 3-0). It consists of RI and information systems (INFOSYS). The computers—hardware and software—and communications directly involved in C2 compose the INFOSYS found in the C2 system.
- Procedures. Procedures are standard and detailed sequences of activities to accomplish tasks. They govern actions within the C2 system to more effectively and efficiently exercise C2. Adhering to procedures minimizes confusion, misunderstanding, and hesitance as commanders rapidly shift forces to meet operational contingencies.
- Equipment and facilities. Finally, the equipment and facilities provide sustainment and a work environment for the other elements of the C2 system.

1-21. As the Army moves towards more digitization in the C2 system, the most important aspect of digital capabilities centers on the combined suite of

information technologies within the INFOSYS. The manner in which these technologies combine has the potential to accelerate decision making and make it more accurate and reliable. They also support efficient and effective execution. INFOSYS serve by reducing human labor organizing information into a usable form. Used correctly, these capabilities should allow commanders and staffs to spend more time and energy on the art and human dimensions of C2. These powerful capabilities support mission command. Chapter 5 discusses and describes the C2 system.

1-22. The battle staff, through the C2 system, provides the combined arms commander with RI in usable forms that facilitate the combined arms commander achieving situational understanding of the unit's battlespace. Timely, relevant, and usable information given to the commander enables him to make timely decisions and allows the staff to rapidly synchronize, integrate, and fuse unit actions in accordance with his guidance and intent. Battle staffs, within their respective BOS INFOSYS, manage BOS RI and apply continuous analytical reasoning to improve the quality of information provided to the commander.

EXERCISING COMMAND AND CONTROL

1-23. The commander must place the C2 system into action to exercise C2. Exercising C2 takes place dynamically throughout an operations process of planning, preparing for, executing, and assessing continuously. These activities are cyclical and continuous. They do not necessarily occur sequentially. As Figure 1-2 shows, part of each activity occurs at any time with the commander at the center.

1-24. Planning, preparing, executing, and assessing occur continuously in operations. Units must prepare to perform all four actions simultaneously. For example, while preparing for or executing one operation, the unit is always planning for branches and sequels or the next operation. Subordinate units within the same command may be in different stages of the process. Chapter 6 discusses exercising C2.
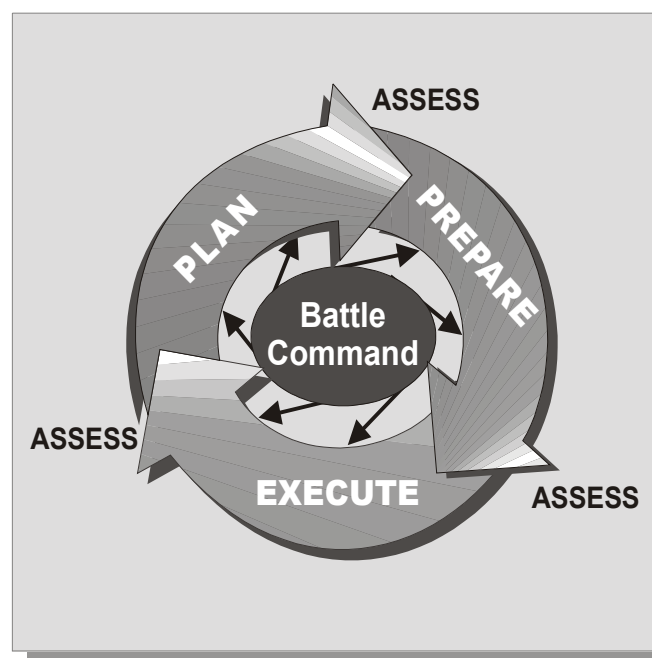
Figure 1-2. The Operations Process

1-25. The operations process focuses on executing rather than planning. Because modern INFOSYS compress planning, more time can be focused on preparation and execution. They do this in two ways. First, they allow near-simultaneous planning—collaborative and parallel—among echelons to compress the time needed for all echelons to complete their plans. Second, because they provide nearly continuous updates to a more accurate COP, forces execute faster with a less detailed plan. High-quality updates of the COP make effective incremental adjustments possible during execution and allow the commander to adapt actions quicker to emerging threats and opportunities as he identifies them, as opposed to fighting the plan. In addition, the rapid resynchronization of forces and functions that is now possible mitigates the potential loss of synchronization that legitimately inhibited adjustments during execution earlier.

1-26. The commander follows a continuous cycle of **see first**, **understand first**, **act first**, and **finish decisively** to decrease the options available to the enemy and create or preserve options for his own forces. The commander assisted by his C2 system aims to **see first** within the battlespace. Next, he **understands first**, through collaboration, discussion, and sharing of knowledge related to the common operational picture. This includes understanding the intent of enemies and others who attempt to shape our military operations to their benefit or to our disadvantage. Seeing and understanding first are necessary but not sufficient without **acting first**. The commander through the C2 system synchronizes and integrates the combined arms team as well as directing execution within his intent and guidance. Finally, Army forces **finish decisively** by applying relentless pressure, through following up and exploiting initial blows, with subordinates exercising disciplined ini

tiative. Figure 1-3 below illustrates this. The parts of the figure are explained throughout the FM.
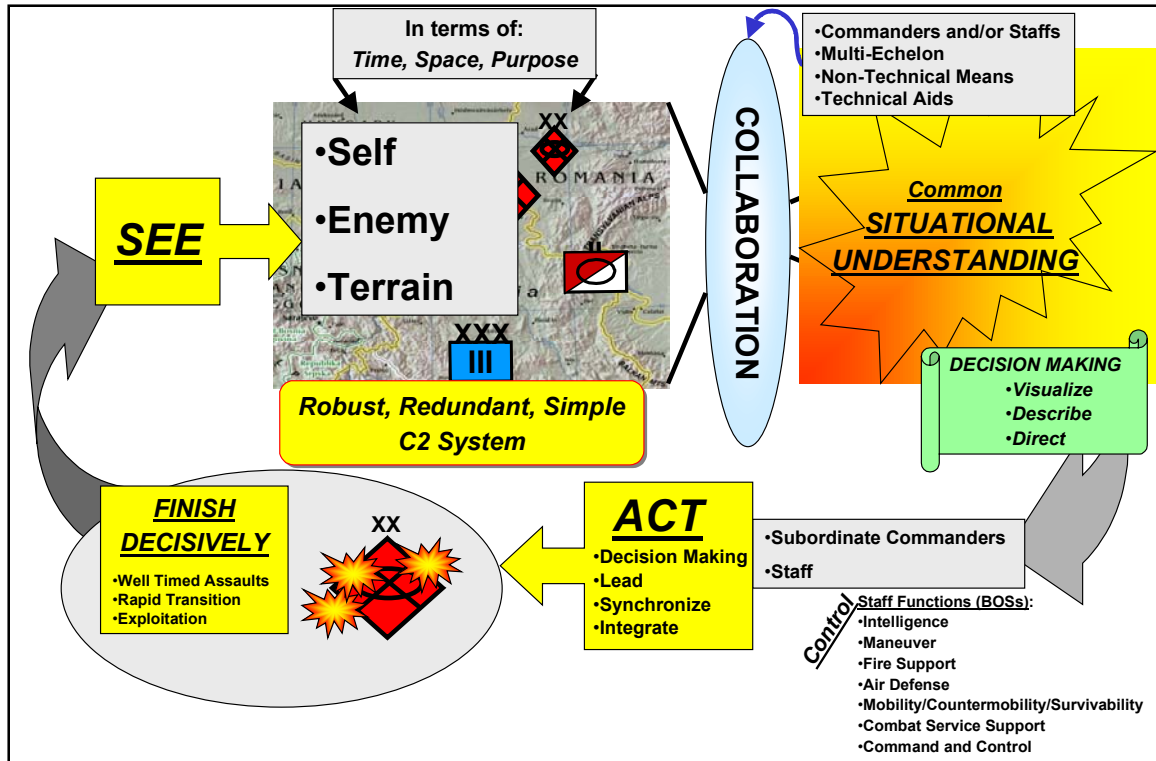
Figure 1-3. The Thought Process

ENVIRONMENT OF COMMAND AND CONTROL

1-27. Military operations are complex—a complex friendly system interacts with a complex enemy system in a fiercely competitive way. Each system consists of numerous individual components that may also be complex systems, interacting and affecting many (or all) other systems. The results of those interactions are complicated, often unpredictable, and perhaps even uncontrollable. Thus, military action may defy orderly, efficient, and precise control. The following four dimensions of the C2 environment help explain the complex nature of military operations:

- Human dimension
- Uncertainty
- Time
- Land combat operations

HUMAN DIMENSION

1-28. The most important dimension of the C2 environment is the human one. People are the basis of military organizations, and military operations occur as human interactions. Humans are integral to C2 at all levels: commanders, personnel in the C2 system, and forces the commander directs. C2 systems help soldiers accomplish missions effectively, but do not eliminate or

lessen the role of humans. The human mind has a capacity for judgment, intuition, and imagination far superior to the analytic capacity of the most powerful computer. This aspect makes command ultimately an art rather than a science. Effective C2 must account for the characteristics and limits of human nature—designed to exploit and enhance uniquely human skills. No amount of technology or equipment can supplant human judgment and spirit in C2, especially that of the commander.

1-29. Battle is a chaotic event where unexpected problems occur. The most important factor contributing to this chaos is the actions of an opponent trying to accomplish his mission by actively trying to cause the friendly mission to fail. This factor alone creates stress, and a capable enemy tries to maximize the level of stress on friendly forces. That, combined with the tempo of modern operations—much of it non-stop—raises the stress on individuals and the system to levels that may become crippling unless planning includes countermeasures. Even in stability operations and support operations — where there is reduced potential for moments of stark terror that exist in battle—constant tension over time can lead to unexpected problems. Commanders should solve these problems at their own level where possible so that their superior commander can focus on the broader perspective, but they coordinate their solutions with other units or echelons for synchronization.

1-30. Stress affects all soldiers, from the commander on down. The harsh environment of operations has physiological and psychological effects. Hardened soldiers can persevere physically under these conditions if their commanders train, prepare, and care for them in such conditions. However, the harsh environment of operations is more likely to have a greater effect on soldiers psychologically than physically. Since the mind directly affects the soldier's will to win, he must prepare mentally to accept the stress of operations, especially combat. Effective C2 also recognizes and deals with the effects of stress on individual soldiers and units. If not dealt with stress causes human error, increasing uncertainty or increasing time for actions to take effect. FM 6-22.5 discusses stress, its effects, and preventive measures in detail. FM 6-22 discusses the leader's responsibilities in dealing with stress on his soldiers and unit, and provides methods to create an effective, combat-ready soldier team.

UNCERTAINTY

1-31. The defining problem of command and control is the need to deal with uncertainty, another dimension that makes C2 more of an art than a science. In the words of Carl von Clausewitz:

War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty.

1-32. The fundamentally complex and interactive nature of military operations generates uncertainty as a natural byproduct. Military operations are human endeavors shaped by human nature and subject to the unpredictability of human behavior. Even the behavior of friendly forces is often unpredictable because of the effects of stress on individuals. In their interrelationships, humans sometimes make mistakes. In addition, each military operation is a complex activity consisting of smaller operations involving many individuals and systems acting simultaneously. In certain situations, the com

mander must deal with complex operations and/or complex environments to include urban operations and operating with restrictive rules of engagement and political considerations. This results in unanticipated and unintended consequences that produce additional uncertainty.

1-33. Military operations are a struggle between independent human wills. The commander faces a thinking, uncooperative, and adaptive enemy. He can never predict with certainty how the enemy will act and react, or how events will develop. The enemy creates uncertainty due to his attempts to shape the battlespace and reduce or neutralize friendly force capabilities. The enemy also creates uncertainty by denying friendly forces information, disseminating disinformation, and using deception. Simultaneously, friendly forces are trying to do the same to the enemy.

1-34. C2 strives to reduce the uncertainty to a manageable level by collecting and using information, but commanders or leaders must accept that it will never be eliminated. Therefore, the commander and his C2 system must function effectively in an uncertain environment. The best method to do this is through decentralized execution of operations based on common understanding of intent, mission orders, and sharing available information. This allows exercising initiative at lower levels to cope with the uncertainty that remains.

1-35. A well-trained staff within a mature C2 system attempts to reduce uncertainty by collecting, processing, and displaying information to provide the commander with knowledge and ultimately to help him reach situational understanding. The commander and staff balance the art and science within information management to provide knowledge and understanding that is focused on finding an operational advantage. If not done correctly, this may introduce further uncertainty. Information only reduces uncertainty if it contributes to knowledge or understanding. Furthermore, neither the source nor the information may be reliable; information may be irrelevant, inaccurate, or untimely. Finally, beyond a certain amount, neither the human nor the system can effectively accept any more information. More information only leads to saturation or information overload, after which incoming information—no matter how relevant or accurate—may not be accepted. Above all, decreased uncertainty not only depends on the quantity or quality of information but also on the analysis of the information. These limitations are especially true of intelligence when you have to collect information against an uncooperative enemy. Chapter 3 discusses Information management, which deals with these problems.

1-36. There are two basic solutions to the problem of uncertainty. The first reduces uncertainty at the higher levels by collecting more and better data, and increasing the information-processing capability at the top. This solution results in greater uncertainty at lower levels because those levels either do not have the information or receive it later than the higher ones. This approach requires greater control of lower-level commanders with detailed orders. The second solution reduces uncertainty throughout the entire organization evenly. It trains the organization to manage and cope with uncertainty as part of normal operations. This solution also delegates authority for decision making to those levels that can acquire and process the information adequately. This implies that there may be less certainty at higher levels. The

second solution leads to more general, flexible orders from higher to lower levels. The first solution may not be as efficient as the second because increased information collection may still not provide absolute certainty. Although it can produce adequate information to execute operations, it may cost the organization efficiency and time. The commander does not make a distinct choice between the two solutions. Tension arises between them only when he allows the quest for more and better information to affect the timeliness of decision making negatively.

TIME

1-37. The next dimension is time. Time is important only in relation to friendly forces' accomplishing the mission. In combat operations, the ability of the enemy to react effectively to friendly actions is the primary time factor to consider. In stability operations or support operations, other factors, such as the forecasted effects of environmental factors, govern time as a factor.

1-38. Consideration of time reveals two prominent factors that affect C2. First, friendly forces must be able to conduct the operations process quicker than the enemy. Second, while the C2 system could theoretically reduce uncertainty by continuing to gather and process information, the value of information about the enemy decreases with time while the situation continues to change. The rapid tempo of operations sets a limit to the amount of information that can be collected and processed for decision making; otherwise, the enemy may gain the advantage with a more responsive operations process. Chapter 6 discusses these factors.

1-39. All actions require a certain amount of time to execute. This time can only be reduced to some absolute minimum. If this time is less than the enemy reaction time, there is no problem. If it is greater, the commander must seek another solution by adjusting the resources, the concept, or even the mission. The discussion of the observe, orient, decide, act (OODA) cycle in Appendix A amplifies this point.

1-40. The C2 system must allow the friendly commander and forces to use time more effectively than the enemy. The ensuing need of the commander to balance the reduction of uncertainty with the pace and tempo of operations is the essence of the C2 challenge. The enemy has the same goal and faces the same problem, so the objective is to achieve relative advantage in timeliness over him. C2 doctrine that provides information to lower levels of command for decision making and exercising initiative allows friendly forces to operate more effectively and in less time than the enemy does.

LAND COMBAT OPERATIONS

1-41. The Army's primary mission is to organize, train, and equip forces to conduct prompt and sustained land combat operations. These forces include Army aviation units as well as ground units, adding a third dimension to land force operations. C2 doctrine should specifically take into account the nature of land operations and land forces, while remaining compatible with joint doctrine.

1-42. Land combat operations usually involve destroying or dislocating enemy forces on land or taking key land objectives that reduce the enemy's

ability to conduct operations immediately or in the future. Four characteristics distinguish land combat operations:

- **Scope.** Land combat includes close combat—actions that place friendly forces in immediate contact with the enemy, where direct fires are used to defeat or destroy enemy forces, or seize or retain ground contested by the enemy. Land combat contains many more interactions between friendly and enemy forces at lower levels than any other form of combat.

- **Duration.** Land combat is repetitive and continuous. Army forces do not strike and return; they remain in contact with enemy forces almost continuously. This allows them to render an enemy incapable or unwilling to conduct further action or to destroy him. This contributes to the large number of interactions between friendly and enemy forces.

- **Terrain.** Land combat takes place among a complex variety of natural and manmade features in the densest of all media of combat. The complexity of the ground environment contrasts significantly with the relative transparency of air, sea, and space. Plans for land combat must account for the visibility and clutter provided by the terrain and the effects of weather and climate.

- **Permanence.** Land combat frequently requires seizing or securing terrain. With control of terrain comes control of populations and productive capacity. Thus, Army forces in land combat make permanent the often-temporary effects of other operations.

1-43. Because of these characteristics, Army forces must conduct operations in uncertainty, organizing to persevere through casualties and setbacks. These forces must have logistic support that anticipates losses and consumption based on plans.

1-44. The characteristics of land forces, especially limitations of terrain, weather, and climate, significantly affect the C2 environment. The Army's C2 system must communicate execution information to its lowest levels and share the COP among all echelons. The lowest tactical echelon of land forces—its irreducible unit of maneuver or movement—is the individual soldier. That consideration presents a unique complexity. These soldiers number in the thousands for a brigade commander or the tens of thousands for an operational commander. Operating within prescribed limitations, soldiers exercise individual initiative and receive orders passed through multiple echelons of command. Personnel who immediately command soldiers have much less experience and professional education compared to the higher commander.

1-45. These characteristics mean that the COP based on friendly unit reporting transmitted through several layers may result in an inaccurate reception or interpretation at lower levels. Communications with subordinates may be tenuous, and information about subordinate formations may be vague as the enemy tries to destroy communications and the environment limits their reliability. The fielding of Army information systems has a goal of mitigating the effects of these characteristics.

1-46. Accordingly, C2 doctrine for land forces must strike the proper balance among coordination, personal leadership, and tactical flexibility. To achieve this, a C2 concept that supports decentralized operations is necessary. This doctrine should emphasize sharing information with the lowest possible levels so subordinates can exercise initiative within the commander's intent. Army C2 doctrine must also apply to C2 of the airspace over the land AO.

1-47. The Army's C2 doctrine supports its operations doctrine, that of full spectrum operations. This doctrine emphasizes shattering the enemy's ability and will to resist and destroying the coherence of his operations by controlling the nature, scope, and tempo of an operation and striking simultaneously throughout his AO to control, neutralize, and destroy objectives. The Army's C2 doctrine stresses rapid decision making and executing, to include rapid response to changing situations. It emphasizes trust and mutual understanding among superiors and subordinates. This supports conducting operations at a tempo and intensity the enemy cannot match. Effective C2 must be the starting point for seizing the tactical initiative. Conducting decentralized operations supports retaining the tactical initiative, while emphasizing subordinates' initiative exploits the tactical situation.

CONCEPT OF COMMAND AND CONTROL

1-48. Historically, military commanders have employed variations of the two basic C2 concepts outlined in Figure 1-3: mission command and detailed command. Militaries and commanders have frequently favored detailed command, but an understanding of the nature of war and the patterns of military history point to the advantages of mission command.

1-49. Two hundred years ago, C2 was consistent with the concept of detailed command. It included a search for accurate information about the enemy and friendly forces. This philosophy served well in earlier times when a commander could generally see the entire battlefield and most of his army as well as the enemy's. He could conclude a battle within one day. With the growth of armies in size and complexity, commanders struggled to command in battles that lasted longer than a day on battlefields that extended beyond their direct view. This process began in Napoleon's time as he used an organizational method—the *corps d'armee* system—to reduce the uncertainty and complexity while still employing detailed command methods.

1-50. By the American Civil War there was an irreversible trend involving forces and battlefields that the commander could not see fully and battles that did not conclude in one day. This led American commanders in the latter years of the Civil War to employ techniques similar to mission command. The historical vignette at the end of this chapter is an example. In Europe, armies by 1870 recognized the same trend, and the first formulation of a concept of mission command, a German concept later called *Auftragstaktik*, formally emerged. Later developments in technology encouraged C2 through detailed command. However, the failure of detailed command—in World War I by all combatants and at the beginning of World War II by the French army—led to using mission command successfully by the German and American armies in World War II. After World War II, the Israeli army developed into a proficient practitioner of mission command.

Von Moltke and Auftragstaktik

Helmuth von Moltke (1800-1891) was appointed Chief of the German General Staff in 1857. One of the important concepts he promulgated was *Auftragstaktik* (literally, "mission tactics"), a command method stressing decentralized initiative within an overall strategic design. Moltke understood that, as war progressed, its uncertainties diminished the value of any detailed planning that might have been done beforehand. He believed that, beyond calculating the initial mobilization and concentration of forces, "…no plan of operation goes with any degree of certainty beyond the first contact with the hostile main force." Throughout the entire campaign, commanders must make decisions on the basis of a fluid, constantly evolving situation. Each major encounter has consequences that create a new situation, which becomes the basis for new measures. Flexibility to react immediately to developments was encouraged, and detailed planning was replaced by delegating decision making responsibility to subordinate commanders within the context of the superior commander's intent. Individual tactical decisions had to be made on the spot; therefore, great care had to be taken to encourage initiative from commanders at all levels.

Moltke believed that a commander should avoid issuing any but the most essential orders, providing senior subordinate commanders only general instructions outlining the principal objective and specific missions, but refraining from interfering with the tactical details for their achievement. "The advantage which a commander thinks he can attain through continued personal intervention is largely illusory. By engaging in it he assumes a task that really belongs to others, whose effectiveness he thus destroys. He also multiplies his own tasks to a point where he can no longer fulfill the whole of them."

MISSION	COMMAND	DETAILED
ASSUMES WAR IS--		**ASSUMES WAR IS--**
Probabilistic		Deterministic
Unpredictable		Predictable
ACCEPTS--		**SEEKS--**
Disorder		Order
Uncertainty		Certainty
TENDS TO LEAD TO--		**TENDS TO LEAD TO--**
Decentralization		Centralization
Spontaneity		Coercion
Informality		Formality
Loose Rein		Tight Rein
Self-discipline		Imposed Discipline
Initiative		Obedience
Cooperation		Compliance
Acceptable Decisions Faster		Optimal Decisions But Later
Ability Throughout		Ability Mostly At Top
Higher Tempo		
COMMUNICATIONS:		**COMMUNICATIONS:**
Implicit		Explicit
Vertical & Horizontal		Vertical
Interactive		Linear
ORGANIZATION		**ORGANIZATION:**
Organic		Hierarchic
Ad Hoc		Bureaucratic
LEADERSHIP:		**LEADERSHIP:**
Delegating		Directing
Transformational		Transactional
APPROPRIATE TO--		**APPROPRIATE TO--**
Art of War		Science of War
Conduct of Operations		Technical/Procedural Tasks

Figure 1-4. Concepts of Command and Control

1-51. As Figure 1-3 shows, the two concepts represent the theoretical extremes of a C2 spectrum. While the US Army's preferred C2 concept is mission command, in practice no commander relies on purely detailed or purely mission command techniques. The degree to which he incorporates some detailed command techniques depends on a variety of factors, such as the nature of the action or task, the qualities of his staff and subordinate commanders, and the nature and capabilities of the enemy.

DETAILED COMMAND

1-52. Detailed command stems from the belief that imposing order and certainty on the battlefield brings successful results. Detailed command accomplishes this by creating a powerful, efficient C2 system able to process huge amounts of information and by attempting to reduce nearly all unknowns to certainty. Detailed command centralizes information and decision making authority. Orders and plans are detailed and explicit, and successful execution depends on strict obedience by subordinates, with minimal decision making and initiative on their part. It emphasizes vertical, linear information flow where information flows up the chain of command and orders flow down. The commander imposes discipline and coordination from above to ensure compliance with all details of the plan. This C2 concept achieves unity of effort through detailed, prescriptive techniques.

1-53. In such a system, the commander commands by personal direction or detailed directive. In so doing, he makes many—too many—decisions personally, not all of which are the most important ones for successful operations. Often, he may make these decisions prematurely. This may achieve a high degree of coordination in planning. However, after the operation has commenced, it leaves little room for adjustment by subordinates without reference to headquarters. It is not a system for taking advantage of rapidly changing situations, nor does it work well when the vertical chain of command and information flow gets disrupted. Detailed command is less effective in fluid military operations requiring judgment, creativity, and initiative. Because of these disadvantages, mission command is a better technique in almost all cases.

MISSION COMMAND

1-54. **Mission Command is the conduct of military operations through decentralized execution based on mission orders for effective mission accomplishment. Successful mission command results from subordinate leaders at all echelons exercising disciplined initiative within the commander's intent to accomplish missions. It requires an environment of trust and mutual understanding.**

1-55. Successful mission command rests on the following four elements:

- **Commander's intent.** The commander's intent is a clear, concise statement of what the force must do and the conditions the force must meet to succeed with respect to the enemy, terrain, and desired end state (FM 3-0). It focuses on achieving the desired end state. The commander formulates and communicates his *intent* (which is nested with that of the command two levels up) to provide unity of effort during operations, including subordinates' exercise of initiative. Commanders place only minimum constraints for coordination on their subordinates to avoid limiting their freedom of action.
- **Subordinates' initiative.** Subordinates' initiative is the assumption of responsibility to decide and initiate independent actions when their commander's concept of operations or order no longer applies or when an unanticipated opportunity leading to accomplishing the commander's intent presents itself (FM 6-22). Subordinates decide how

to achieve their missions within delegated freedom of action and exercise initiative during execution, but they have an absolute responsibility to fulfill the commander's intent.

- **Mission orders. Mission orders are a technique for completing combat orders to allow subordinates maximum freedom of planning and action to accomplish missions that leave the "how" of mission accomplishment to the subordinate.** They state the task organization, the commander's intent and concept of operation, unit mission, the subordinates' mission, and minimum essential coordinating instructions. The mission assigned to a subordinate must include all the normal elements (who, what, when, where, and why) with particular emphasis on the purpose (why) in order to guide, along with the commander's intent, the subordinates' initiative. A properly written mission statement becomes especially critical in mission command. While a commander supervises subordinates' execution of operations, he only intervenes to direct operations, to coordinate, to restore operations, or to exploit success.
- **Resource allocation.** Commanders allocate appropriate resources to subordinates to accomplish their missions. In the context of mission command, commanders must consider information a resource—comparable to more traditional ones, such as soldiers and materiel—and share it through all levels of command.

1-56. Mission command concentrates on the objective of an operation and not on how to achieve that objective. This C2 concept emphasizes timeliness of decision making, understanding the superior commander's intent, and a clear responsibility of subordinates to fulfill that intent. The underlying requirement is to act within the commander's intent, which provides the basis for unity of effort throughout the force. With the commander's intent to provide unity of effort, mission command relies on decentralized execution and initiative by subordinates. Mission command requires a common understanding of Army doctrine, as well as of the situation and commander's intent. The fundamental basis of mission command is creating trust and mutual understanding between superiors and subordinates. This is more than just control: the commander must establish a command climate of trust and mutual understanding, allowing subordinates to exercise initiative. Mission command applies to all full spectrum operations, including offensive, defensive, stability operations, and support operations.

1-57. Mission command accepts the uncertainty of war by reducing the amount of certainty needed to act. The commander guides unity of effort through his intent, mission orders, and a COP. In such a philosophy, the commander holds a "loose rein," allowing subordinates freedom of action and requiring initiative on their part. He makes fewer decisions, but this allows him to focus decision making on the most important ones. The organization operates more on self-discipline rather than discipline imposed from above. Because mission command decentralizes decision making authority and grants subordinates significant freedom of action, it demands more of commanders at all levels and requires rigorous training and education.

1-58. Mission command tends to be decentralized, informal, and flexible. Orders and plans are as brief and simple as possible, relying on subordinates to

coordinate and the human capacity to understand with minimum verbal information exchange— implicit communication. By decentralizing decision making authority, mission command increases tempo and improves the ability to deal with fluid and disorderly situations. Moreover, relying on implicit communication makes mission command less vulnerable to disruption of the information flow than detailed command.

1-59. With trust in subordinates and mutual understanding, the concept of mission command remains valid in stability operations and support operations. Pressures in these operations would appear to favor detailed command because there seems to be more time for decision and action, there are normally fewer crises, and the information may appear more consistent, if not better, than during offensive and defensive operations. The aim of these operations is often persuasion rather than destruction of the enemy, and more likely accomplished by preemption, dislocation, and disruption. In the often politically charged atmosphere and complex conditions of these operations, subordinates' actions must remain within the framework of the commander's intent and contribute to achieving the desired end state. One isolated, thoughtless action can prejudice months of patient work, potentially alienate the local population, and so benefit the belligerent's cause in stability operations or vitiate the effects of support operations. Therefore, commanders must understand not only their tasks and immediate purpose, but also prescribe an atmosphere to achieve and maintain in the course of a campaign. In turn, they must communicate the rationale for military action and explain what to achieve throughout their commands. In this way, junior commanders and their soldiers, while not necessarily knowing how the commander constructed the campaign plan, gain insight into what is expected of them, what constraints apply, and, most important, why the mission is being conducted.

1-60. Given the characteristics of stability operations and support operations, mission command retains applicability. Achieving unity of effort becomes even more complex yet remains desirable at lower levels, and the commander's intent becomes key. Circumstances of remote locations or rapidly arising situations can force commanders to conduct decentralized operations, and subordinates must use their disciplined initiative to solve problems as they arise. Again, the success of mission command rests on trust and mutual understanding, not only within the commander's organization, but among all organizations engaged in the operation.

1-61. Detailed command, by contrast, tries to provide guidance or direction for all conceivable contingencies from the top, which is impossible in the dynamic and complex environment of stability operations and support operations. Often subordinates may encounter situations not covered by guidance, and they must refer to their headquarters, degrading timeliness of their decisions and actions. In addition, in these cases, detailed command breaks down trust and mutual understanding, affecting unity of effort among subordinates and between subordinates and the commander.

DIGITIZATION AND MISSION COMMAND

1-62. Digitization is the Army's program for leveraging information-age technologies. Current and future improvements in such capabilities as command, control, communications, computers, intelligence, surveillance, and recon

naissance, such as the Army Battle Command System (ABCS) and Battle Command on the Move (BCOTM)), use digitization to enhance the art of command and facilitate the science of control. The digitized C2 systems the Army is building actually facilitate and strengthen mission command, even though they appear at first glance to encourage detailed command. This has the potential for creating conflict. Detailed command tries to impose order and certainty on the battlefield by creating a powerful and efficient control apparatus that can process huge amounts of information and reduce almost all unknowns to certainties. The C2 system the Army is designing and testing— with its extensive system of multiple, interconnected sensors, live video feed, and automatic, multi-echelon data-sharing—appears to lead in that direction. A commander at almost any level can apparently reach down and control the actions of an individual soldier at any time. Nevertheless, commanders must use it with mission command.

1-63. In the late 1960s, the Army had for the first time a technology that made some commanders feel they could best control a fight on the ground from a helicopter overhead. This was in direct conflict with the official command doctrine of the time that the senior leader on the ground had the best perspective, and that commanders should lead from the front. The ubiquitous C2 helicopter and PRC-25 radio changed that. It gave the commander the illusion of having perfect knowledge of the ground situation and made him feel he could actually reach down and influence the battle, with direct, not mission-type, orders. Many succumbed to this temptation.

1-64. The predictable results were erosion of trust and a weakening of the chain of command, along with a decline in junior officer and NCO willingness to initiate action without orders. Although there may have been a short-term increase in apparent combat effectiveness of small units, the long-term effects of that conflict between technology and command doctrine were devastating.

1-65. The perception of digitization in the Army is that it might minimize the art of command by increasing information and providing commanders better, more accurate, and timely information and intelligence. This allows them to rely less on intuition to visualize the current and future states. With more accurate information, they would be better able to dictate the terms, location, and tempo of the battle even at lower echelons. This would appear to create tension with the concept of mission command.

1-66. Information technologies do not change the fundamentals of command. They can increase the effectiveness of decision making and leading. They should allow commanders to devote more time to the art and human sides of command, and to support their achievement and use of visualization. These technologies and capabilities also allow all BOS across many distributed locations and echelons to share information and collaborate when analyzing that information. Never have commanders had more ability to exercise increased direct control, yet never have they had more reason not to do so—information is the springboard of initiative and independent action. Using information technologies to empower subordinates has the potential to increase the tempo of operations beyond the level at which our adversaries can hope to respond.

1-67. Modern information systems (INFOSYS), such as the Army Battle Command System (ABCS), substantially enable mission command. Above all,

they allow commanders to provide information to subordinates to use to guide the exercise of disciplined initiative within the commander's intent. This information provides subordinates with a COP to facilitate their own situational understanding and conveys their superior commander's perspective. Subordinates can visualize intuitively the effects of possible decisions on the rest of the higher commander's operation and accept or mitigate the costs of their decision. This situational understanding provides a context for subordinates to use when assessing information obtained at their level within which to exercise initiative consistent with their superior commander's intent. As subordinates act on their decisions, ABCS allow them to pass information about that decision to their commander. The higher commander can monitor the subordinates' action and, with his staff, resynchronize operations rapidly with ABCS after a subordinate exercises individual initiative.

1-68. When used by a well-trained staff with solid procedures, modern INFOSYS can also assist in understanding the commander's intent by providing graphic displays and the means to obtain feedback from subordinates of their understanding of his intent. This feedback can become a two-way data flow that leads to a shared understanding among all participants and increases the context for exercising initiative. The commander can use the same capabilities to confirm or correct subordinates' understanding. This increases opportunities to exercise disciplined initiative.

1-69. Digitization can substantially support the art of command by providing commanders better, more accurate, and timely information. With increased situational understanding, the commander focuses his intuition on fewer unknowns, being able to visualize better the current and future end state. With the better products of digitization, the commander can identify the unknowns and precisely direct information collection or accept the uncertainty in the interests of timeliness. With more accurate information, he dictates the terms, location, and tempo of the operation. This enables him to spend more time and energy to lead and motivate soldiers to do difficult tasks under difficult conditions.

HISTORICAL VIGNETTE

1-70. The following historical vignette illustrates how one commander successfully used mission command techniques—including the four elements—to secure victory when outnumbered. The opposing commander, relying on detailed command techniques, was defeated.

Command and Control at Chancellorsville (April-May 1863)

"I not only expected victory, I expected to get the whole [rebel] army," said Joe Hooker of the Chancellorsville campaign, which instead turned out to be one of Lee's greatest victories. Hooker believed he had planned well ("My plans are perfect, and when I start to carry them out, may God have mercy on Bobby Lee; for I shall have none."), and his numerical advantage should have compensated for many mistakes. Chancellorsville was, however, a victory of Lee's superior command and control. Hooker's plan was too rigid and relied on expected reactions from Lee. Fearing that the enemy might learn the details of his plan, Hooker withheld his intent from his subordinates until the last possible minute, thus often denying them the ability to take the initiative and react to the tide of battle. Lee, however, never lost confidence in himself or his subordinates. Chancellorsville was the

epitome of his ability to assess and adjust to a situation as it unfolded, weigh the risks, and make bold decisions.

Hooker planned as the decisive Union operation against Lee for the Union cavalry to sweep across the Rappahannock River, sweep behind the Confederate left, and cut Lee's railroad supply line, thus turning him out of his Fredericksburg fortifications. His shaping operation would be Union infantry forces enveloping Lee's left with other forces holding Lee at Fredericksburg. Rain, however, made the river impassable to the cavalry force. He then planned his decisive operation to be the main Union forces crossing the Rappahannock and the Rapidan and marching eastward behind Lee's left, first going to Chancellorsv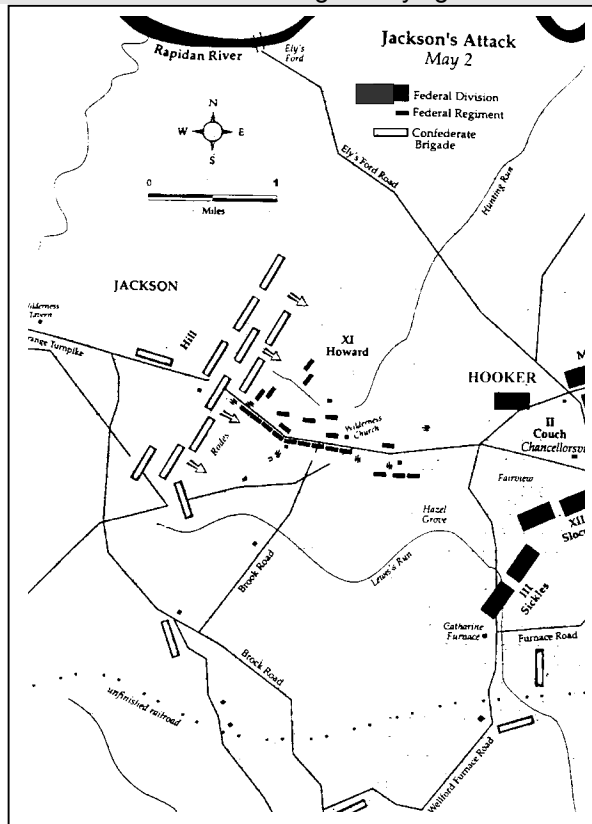ille. Combined with the Union cavalry cutting off Confederate supplies and reinforcements, this would turn Lee out of Fredericksburg. If he headed for Richmond, the Union would strike his flank; if he fought at Chancellorsville, the army, pursuing from Fredericksburg, could hit him simultaneously in the front and rear.

A commander must adapt to a changing situation. Union disinformation, demonstrations, and feints preceding the river crossings had initially misled Lee, so that by the end of April Hooker had outmaneuvered him, establishing a bridgehead across the river below Fredericksburg and readying a large force to attack Lee's rear. In addition, around 24,000 men under Sedgewick were just above Fredericksburg. Informed that Union forces had crossed the Rapidan, Lee now correctly assessed the situation, recognizing the threat to his rear. Hooker expected Stuart's cavalry to pursue the Union cavalry south; instead, Stuart sent only about 1,000 men, keeping the bulk on Lee's flank for protection and intelligence. Erroneously believing that the Confederate lines had already been cut, Hooker planned to fight a defensive battle, choosing the time and place of the encounter. Thus, he sacrificed the momentum of the successful river crossing and advance to Chancellorsville. He also expected the heavily outnumbered Lee to take his entire force to Chancellorsville, opening the way for Sedgewick and eventually ending up between two fires. Instead, Lee first detached 12,400 men to defend the Rappahannock front against a possible frontal assault. The remaining 36,300 men marched to Chancellorsville.
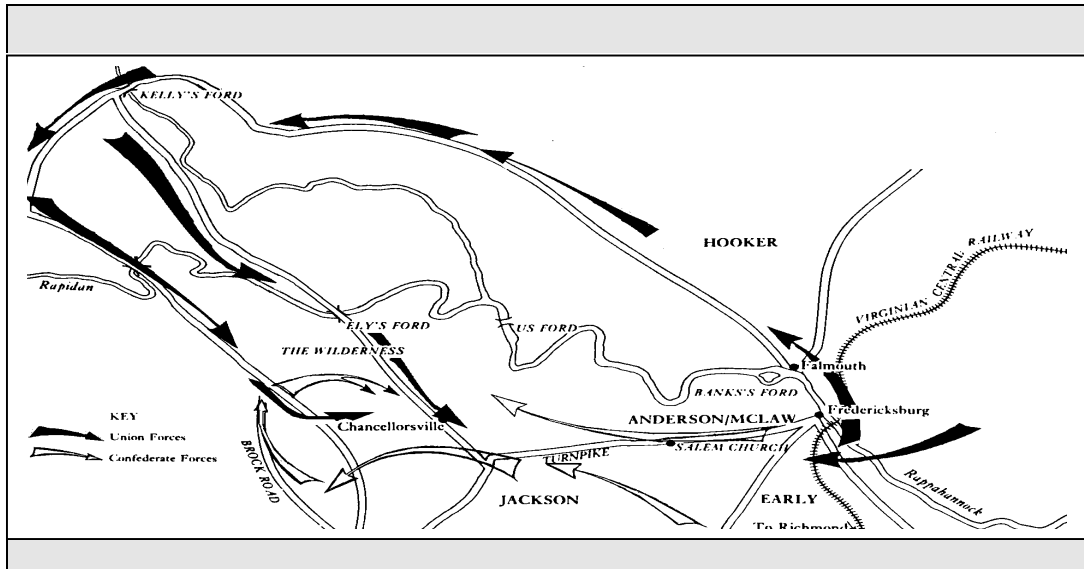
On 1 May, Hooker planned to seize the heights south of the Rappahannock, drive off Confederate defenders, and outflank Lee west of Fredericksburg. Delaying the advance in the vain hope of receiving last-minute intelligence, Hooker assumed that Jackson and the main Confederate forces were still at Fredericksburg, and that any Confederates they encountered would be fighting defensively. By the close of 30 April, however, Lee had recognized that the real threat was the force coming out of the Wilderness at Chancellorsville. Conferring with Jackson, he issued no specific orders, but his intent was clear: to repulse the enemy and drive him back to the Rapidan. Contrary to Hooker's expectation, Jackson advanced. His skirmishers encountered three Union columns and denied them the ability to communicate, link up with one another, or provide mutual support. Hooker's close hold of his plans and intent, meanwhile, was now particularly telling. The irresolute Sedgewick, isolated from the main action, had no idea what he was

supposed to do when telegraph delays resulted in crossed communications: he did nothing but waited for clarifying orders. Assessing the situation that afternoon, Hooker surprised his corps commanders and ordered a withdrawal to entrench around the Chancel

lorsville crossroads. He was now positioned to fight the defensive battle he sought, but he had ceded the initiative to Lee.

Lee and Jackson conferred again on 2 May. Intelligence indicated that the Union center was too entrenched for an assault, but Howard's right flank corps was "in the air"; if the Confederates marched south and west of Chancellorsville they could hit Hooker's rear and collapse the Union position. Assessing all information, Lee decided that the advantage of seizing the initiative and mounting an offensive outweighed proscriptions against dividing outnumbered forces. Leaving himself 14,900 men against 72,000, Lee sent the rest with Jackson. He correctly calculated that Hooker, in his desire for a defensive battle, would do nothing while Jackson completed his flanking march. Jackson swung north, screened by Stuart's cavalry and the Wilderness, to march beyond the Union right. Hooker interpreted reports of sighted Rebels as a withdrawal, and sent a brigade from Howard's corps to support the pursuit of the enemy. He apparently preferred to believe in the retreat he had predicted, rather than the possibility of unconventional battlefield maneuvering. Meanwhile, Early misunderstood an order and withdrew all but a brigade from Fredericksburg to join Lee at Chancellorsville; ironically, this movement actually supported the perception of a Confederate retreat. Hooker now ordered Sedgewick to seize Fredericksburg and vigorously pursue the "retreating" enemy. Later that day, Jackson came through the Wilderness and launched a surprise attack from the west and northwest against a Union line facing south, routing Howard's corps. Jackson pushed on that night to prevent the enemy from recovering from the shock of his attack, but in the confusion he was mortally wounded by friendly fire. Hooker, still intending to fight a defensive battle until Sedgewick was in position, ordered him to come up on Lee's rear until he joined with Hooker's forces. Sedgewick's overly cautious advance, however, frustrated this.

On 3 May, Stuart took over for Jackson. Lee's mission for Stuart was clear: drive the Union forces from Chancellorsville and reunite the two Confederate wings. Hooker, realizing that Sedgewick would be delayed, withdrew his troops to consolidate his defenses south of the crossroads (Fairview), apparently unaware of the artillery advantage he ceded by abandoning his present position. Fierce fighting erupted to drive the Union forces from their positions, Hooker's defense around Chancellorsville was breached (at high cost to both sides), and the divided Confederate army was reunited. Early returned to Fredericksburg, but Sedgewick had overrun the Fredericksburg line. Ignorant of Hooker's overall intent, he did not, however, pursue the fleeing enemy. Early gathered his forces, fell back around two miles, and established a new defensive line. A dawn reconnaissance on 4 May confirmed that Hooker had gone over to the defense north of Chancellorsville. Despite advice from his subordinate commanders to launch a flank attack, Hooker had insisted on withdrawing the army to a previously designated position. The day before Hooker had suffered a head injury when a shell hit a few feet from where he was standing. Whether or not this injury clouded his judgment, he did not interpret current situational developments accurately. He would not relinquish command and insisted that his defensive plans be carried out. Confident that Hooker would not attack, Lee again divided his forces to retain the initiative, allocating 25,000 to hold Hooker and assigning McLaws, Early, and three of Anderson's brigades to clear the rear of Sedgewick. The Confederates were repelled, but Sedgewick, unaware of Jackson's injury and thinking that Jackson had him almost surrounded, retreated across the river. Confronted with this, and having no contingency, Hooker abandoned his plan. He finally consulted with his corps commanders, but rejected their proposal to counterattack, and instead retreated across the Rappahannock (6 May), ending the campaign.

> Thus, despite being outnumbered two to one, Lee had divided his forces, accepting the risk of going contrary to accepted practice. The decision was not reached recklessly, but only after carefully assessing timely situational intelligence, interpreting enemy action, consulting with subordinates, and realizing that Hooker had yielded the psychological advantage early in the campaign.

CONCLUSION

1-71. Although C2 hardware systems have evolved continuously throughout history, the fundamental nature of C2 is timeless. Improvements in technology, organization, and procedures may change the sophistication of C2, but they have not changed its importance. While these improvements appear to have increased the span of C2, they have barely kept pace with the increasing dispersion of forces and complexity of military operations. Whatever the age or technology, the key to effective C2 is people using information to decide and to act wisely. Whatever the age or technology, the ultimate criterion of C2 success is always the same: acting faster and more effectively than the enemy to accomplish the mission at the least cost to the friendly force before the enemy can effectively act and react.

1-72. Army C2 doctrine consists of eliminating as much uncertainty as possible within the time available and managing whatever uncertainty remains. Army C2 doctrine uses decentralized execution to manage this uncertainty by distributing the handling of uncertainty throughout the organization. However, C2 doctrine must have its basis in a supporting doctrine of command, which is the subject of the next chapter. An understanding of the nature and science of control is the subject of Chapter 3.

Chapter 2

Command

The criterion by which a commander judges the soundness of his own decision is whether it will further the intentions of the higher commander.

FM 100-5, *Operations*, 1944

Command is personal. In US Army regulations and doctrine an individual, not an institution or group, commands. As the definition of command and control (C2) notes, only a properly designated commander

may exercise the authority and direction of C2. The definition states that only the commander has total responsibility. How he exercises command varies with the characteristics of the individual commander. Every officer has strengths and weaknesses, abilities and shortcomings that affect how he commands. Command takes place from the location of the commander, whether he is at a command post, infiltrating at night with his light infantry elements, or in a main battle tank moving with the decisive operation. The basic techniques of command do not change or expand with the increase in complexity of the forces that a commander commands. However, direct leadership within command decreases as the level of command increases, and applying organizational leadership as described in FM 6-22 becomes more relevant.

*To command is to do more than carry out orders and apply rules and regulations to the ebb and flow of military administration. Command calls for a creative act, spawned by a carefully carved **vision** of one's mission and **professional values**. Great commanders have the **confidence and courage** to interpret rules and orders, and to put their personal stamp on the decisions guiding their force....*

Roger Nye, *The Challenge of Command*

NATURE OF COMMAND

2-1. The nature of command includes its definition, its elements, and the principles of command. The definition follows, and the succeeding sub-

sections discuss the elements and principles. The definition establishes the commander's authority and his two great responsibilities. Implicit in the responsibilities are the elements of command. The principles of command discuss how to use the elements of command to accomplish the responsibilities.

2-2. Command is the authority that a commander in the military service lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel (JP 1-02).

ELEMENTS OF COMMAND

2-3. Of the elements of command below, the definition of command refers explicitly to *authority*. It implicitly requires decision making (effectively using available resources for achieving a future state or mission), and leadership (providing for the health, welfare, morale, and discipline responsibilities of command). The latter elements—decision making and leadership—make up the art of command. The following section elaborates their roles in command.

- Authority
- Decision making
    - Visualize
    - Describe
    - Direct
- Leadership

2-4. Leaders in command strive to use their authority with firmness, care, and skill. Commanding at any level is more than simply leading soldiers and units and making decisions. The interaction of these elements characterizes command. The commander who understands each element conceptually and how it interacts with the others—skillfully balancing them in practice—is much more effective.

2-5. Consequently, the commander must achieve a balance among the elements and develop skill in each element. He must delegate authority to subordinates for those functions in which he cannot participate fully, and participate sufficiently to assure their execution. Officers must prepare for higher command by developing and exercising their skills when commanding at lower levels.

Authority

2-6. The Constitution establishes the armed forces, designates a commander-in-chief (the president), and empowers Congress to provide funding and regulations for the armed forces. Public law, such as the *Uniform Code of Military Justice (UCMJ)*, grants further authority, responsibilities, and accountability to commanders of all services. Army regulations (ARs) provide authority, responsibilities, and accountability for Army commanders.

2-7. Authority involves the right and freedom to use the power of command and to enforce obedience under criminal law. This official authority to enforce orders by law if necessary is one of the key elements of command and a distinction between a military commander and civilian leader or manager. However, a commander has another source of authority: personal authority. Personal authority reflects influence and charisma, stemming from values, attributes, personality, experience, reputation, character, personal example, and tactical and technical competence. Personal authority ultimately derives from the actions of the commander, and it is often more powerful than legal authority. Authority includes three subconcepts:

- Responsibility.
- Accountability.
- Delegation.

2-8. With authority comes *responsibility*, the legally established and moral obligation a commander assumes for the actions, accomplishments, and failures of his unit and his decisions. Above all, the commander is responsible for accomplishing his assigned missions. Then, he is responsible for his soldiers—their health, welfare, morale, and discipline. Finally, the commander is responsible for maintaining and employing the resources of his force. In most cases, these three responsibilities do not conflict; however, the responsibility for mission accomplishment carries in it potential conflict with responsibility for soldiers. In an irreconcilable conflict between the two, including the welfare of the commander himself, mission accomplishment must take precedence. The commander endeavors to keep such conflicts to an absolute minimum.

2-9. Another corollary of authority is *accountability*: the requirement to answer to superiors (and finally the American people) for mission accomplishment, for the lives and care of the soldiers under his command, and for effectively and efficiently using Army resources. It also includes an obligation to answer for properly using delegated authority. In turn, the commander's subordinates are accountable to him for fulfilling their responsibilities.

2-10. To accomplish his mission, the commander may *delegate authority* to subordinates, including staff officers, to decide and to act for him or in his name in specified areas to assist in fulfilling his responsibilities. While the commander can delegate authority, he cannot delegate responsibility. These subordinates are accountable to the commander for using his delegated authority, but the commander remains solely responsible and accountable to his superiors for the actions over which his subordinates exercise authority. There are several methods to delegate authority. A commander may delegate authority for a functional area or a technical specialty, for a geographical area, or for specific kinds of actions. Finally, the commander may limit delegating authority in time, or he may use a standing delegation.

Decision Making

2-11. *Decision making* **is selecting a course of action (COA) as the one most favorable to accomplish the mission.** This decision can be deliberate, using the military decision making process (MDMP) and a full staff to create a fully developed and written order, or it can be done very quickly by

the commander alone when executing operations resulting in a fragmentary order (FRAGO). Deciding includes knowing *if* to decide, then *when* and *what* to decide, and understanding the consequences. Decisions are how the commander translates his vision of the end state into action. The commander uses the methodology of *visualizing*, *describing*, and *directing* as his personal contribution to decision making, whether he has a staff or not.

2-12. Deciding is both science and art. Many aspects of military operations—movement rates, fuel consumption, weapons effects—are quantifiable. Other aspects—the impact of leadership, complexity of operations, and uncertainty about the enemy—belong to the *art* of war. The commander should focus the most attention on those decisions belonging to the *art* of war. His decision would represent a choice or statement of a goal or end state (*objective*) for the action, a way (*concept*) to achieve the goal, and an allocation of means (*resources*) to tasks.

2-13. **Visualizing consists of creating and thinking in mental images.** One of the most important acts of visualizing is the commander's mental image of the end state—whether it is the end state of his unit or organization in training or in operations. Visualizing includes anticipating outcomes, understanding the relationships between means and ends, and understanding inherent risks. While the commander assesses the current situation, he must also visualize future operations. The commander always uses the most current intelligence to facilitate his visualization of the enemy and environment.

2-14. There are three sources for the images of visualization. The first is the principles that guide the commander's behavior: his military experience, training, and education, including his knowledge of doctrine. The second source of images consists of the unit's goals, the timetable for achieving them, and the end state; militarily they include the higher commander's intent, the unit mission, and the commander's own intent. The final source of images consists of the decision for allocating resources and sequencing activities to achieve the unit goals, including specific actions and forecast events. For the commander to truly visualize the battlespace, he must look across the dimensions of width, depth, height, time, human, and the electromagnetic spectrum. Otherwise, he will never understand the battlespace and leave his forces vulnerable to deception and other threat offensive information operations, especially against an adaptive threat that uses asymmetric means.

2-15. **Describing relates operations to time and space in terms of accomplishing the purpose of the overall operation.** In all operations, purpose and time determine the allocation of space. To describe their visualization, commanders clarify their description, as circumstances require. Commanders use the commander's intent, planning guidance, and commander's critical information requirements (CCIR) as their primary methods of description.

2-16. **Directing is communicating execution information.** To command is to direct. Directing converts a commander's decision into effective action by forces. Commanders generate effective action through directing forces and synchronizing the BOS. Commanders direct the outcome of major operations, battles, and engagements by—

- Guiding and motivating the organization toward mission accomplishment.
- Assigning missions.
- Prioritizing and allocating resources.
- Assessing and taking risks.
- Deciding when and how to make adjustments.
- Committing reserves.
- Seeing, hearing, and understanding the needs of subordinates and superiors.

2-17. Militarily the means of directing include plans or orders, especially the concept of operations, the synchronization matrix, the decision support matrix, and other supporting plans, such as branches and sequels.

Leadership

2-18. *Leadership* is **influencing** people—by providing purpose, direction, and motivation—while **operating** to accomplish the mission and **improving** the organization. It is the most important element of combat power. As the senior leader of an organization, the commander directly applies that element of combat power. Subordinate commanders and small unit leaders reinforce that element. FM 6-22 discusses Army leadership in detail.

2-19. There are two traditional philosophies of leadership: authoritarian or directing, and persuading or delegating. While authoritarian leadership may produce rapid obedience and even short-term gain, it can also develop subordinates who depend too much on the leader, require continuous supervision, and lack initiative over the long term. It can also fail to develop teamwork among subordinates. Persuasive leadership expects to teach subordinates not only to accept responsibility but also to actively seek it. Over time, it produces subordinates who exhibit a high degree of independence, self-discipline, and initiative. A commander's personality drives his leadership philosophy and style. The mix of styles may also depend on the particular situation and the capabilities of subordinate commanders.

2-20. Battle command (discussed in Chapter 4) pits the leadership (decision making, stamina, and willpower) of Army commanders against enemy commanders. Army commanders aim to confront the enemy with three choices: surrender, withdraw, or die. Having the legal authority of command and issuing orders will not suffice in battle. The leadership of commanders ultimately includes their will, as Clausewitz stated:

As each man's strength gives out, as it no longer responds to his will, the
inertia of the whole gradually comes to rest on the commander's will alone.

PRINCIPLES OF COMMAND

There will be neither time nor opportunity to do more than prescribe the several tasks of subordinates.... If they are reluctant to act because they are accustomed to detailed orders—if they are not habituated to think, to judge, to decide, and to act for themselves in... their echelons of command—we shall be in sorry case when the time of "active operations" arrives.

Fleet Admiral Ernest J. King
CINCLANT Serial 053, 21 Jan 1941

2-21. Commanders use the principles of command to guide how they employ elements of command to fulfill their fundamental responsibilities of command: mission accomplishment and people. Figure 2-1 graphically relates these responsibilities to the principles of command, which are—

- Unity of effort
- Decentralized execution
- Trust
- Mutual understanding
- Timely and effective decision making

2-22. A commander's use of the principles of command must fit the requirements of the situation, his own personality, and the capability and understanding of his subordinate commanders. Command cannot be stereotyped. Moreover, the command principles and applying mission command must guide and stay abreast of the capabilities of emerging technology.

2-23. Mission command reconciles the absolute requirement for unity of effort at all levels with decentralization of execution by emphasizing the commander's intent. Decentralization of execution is sustained by and contributes to timely and effective decision making through subordinates' initiative. Mission command can only work in an environment of trust and mutual understanding. Mission command provides a common baseline for command not only during operations but also in peacetime activities. To employ mission command successfully during operations, the unit must understand, foster, and frequently practice the principles of command during training. Indeed, using command principles during peacetime overcomes institutional obstacles, discussed later in this chapter, to mission command. The principles of command apply to all levels of command.
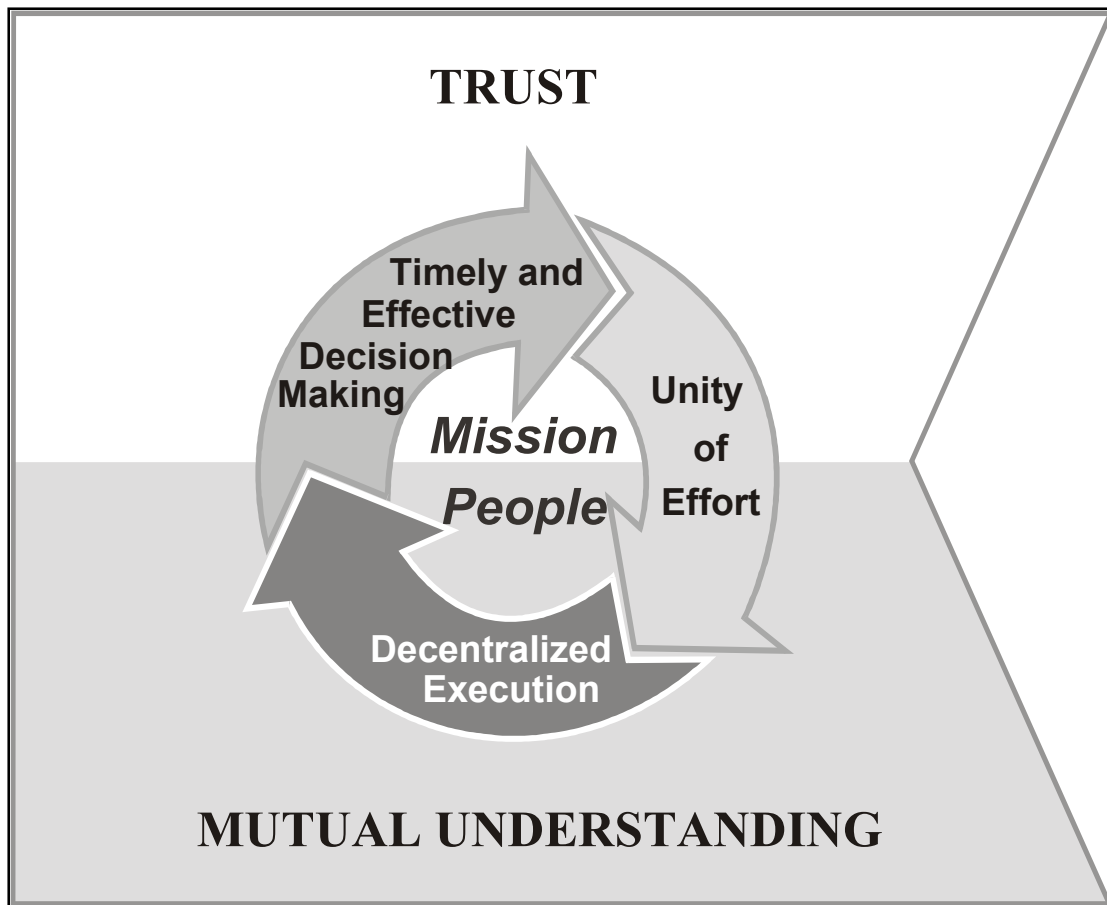
Figure 2-1. Command

Unity of Effort

2-24. **Unity of effort is coordination and cooperation among all forces toward a commonly recognized objective, even if the forces are not necessarily part of the same command structure.** The higher commander gives a clear intent and sense of purpose to achieve unity of effort within the force under mission command. The commander's intent provides a

> *I suppose dozens of operations orders have actually gone out in my name, but I never, throughout the war, actually wrote one myself. I always had someone who could do that better than I could.*
>
> *One part of the order I did, however, draft myself—the intention. It is always the most important, because it states—or it should—just what the commander intends to achieve. It is the overriding expression of will by which everything in the order and every action by every commander and soldier in the army must be dominated. It should, therefore, be worded by the commander, himself.*
>
> Field Marshal Sir William Slim,
> *Defeat Into Victory*

focus for separate but coordinated efforts by subordinates and delegates decision making to them. Designating priorities in operations also aids unity of effort and is part of understanding intent. The failure to achieve unity of effort leads to confusion and missed opportunities; the effects can be catastrophic.

2-25. Understanding the commander's intent two echelons up further enhances unity of effort while still providing the basis for decentralized decision making and execution in dynamic operations. Subordinates aware of the commander's intent are far more likely to act with initiative, yet purposefully, in unexpected situations. In mission command, subordinates have an absolute responsibility to fulfill the commander's intent. The commander's intent provides a unifying idea that allows decentralized execution within an overarching framework. It provides guidance for individuals to exercise initiative to accomplish overall goals.

2-26. Unity of command is the Army's preferred method for achieving unity of effort. Within Army forces commanders always adhere to unity of command when organizing forces. Through unity of command, any mission falls within the authority and responsibility of a single, responsible commander. That commander receives orders from only one superior, to whom he is accountable for accomplishing the mission.

2-27. However, in certain circumstances, such as interagency or multinational operations, unity of command may not be possible, but commanders may still organize a C2 system to achieve unity of effort. In addition, Army forces in future operations may include contractors, over whom commanders will have some lesser and different authority than command. When unity of command is not possible, organizational decisions must achieve unity of effort through cooperation and coordination among all elements of the force—even if they are not part of the same command structure.

Decentralized Execution

2-28. Decentralized execution is essential to gaining and maintaining the tactical initiative in dynamic operations and environments of high uncertainty. It allows and requires subordinates to act with the agility that unbalances the enemy and leads to dislocating the enemy's coherence and destroying his will to resist. It allows and requires subordinates to use their initiative to make appropriate decisions to further their higher commander's intent. This is especially important in allowing subordinates to take advantage of unforeseen events or adjust to changes in an operation in a timely fashion, before the enemy can effectively react. Decentralized execution allows subordinates with up-to-date information to make decisions, and it reduces the amount of information passed up and down the chain of command. Generally, the more dynamic the circumstances, the greater the need for decisions at lower levels. However, even in situations where a high level of knowledge exists at high levels, the commander must exercise decentralized execution routinely or it will rapidly disappear as subordinates become used to waiting for detailed instructions from higher headquarters.

2-29. Decentralized execution, central to mission command, requires delegating specific decision making authority. This delegating may be explicit, as

in the detailed tasks outlined in orders, or implicit, as in the implied tasks and decentralized execution found in mission orders. Assessing what authority to delegate is an essential part of a commander's art. Delegating authority also provides a means of handling the information generated by modern technology and operations. It reduces the number of decisions made at the higher levels and allows increased agility through reduced response time at lower levels of command. This delegation not only applies to subordinate commanders but also to the organization's staff members. Detailed command would require more decisions at a higher level, thereby overloading the commander.

2-30. A commander delegates authority to a subordinate only after he sets the necessary conditions for success by the subordinate. The commander must allocate sufficient resources to subordinates to accomplish their assigned mission. These resources should include information as well as forces, materiel, and time. Allocating resources is not only CSS but also combat and CS resources, especially information, ISR assets, and priority of access to higher-level collection. Because of the need for economy of force, allocating resources is not just a management or scientific matter, but one requiring the art of command. While delegated authority characterizes decentralized operations, it does not imply any lessening of the requirement to supervise the subordinate. The commander must still synchronize the activities of his subordinates. Synchronization of effects during execution results from integrating fragmentary information and complex combat functions during planning and preparation. A single, unifying concept of operations, together with a keen understanding of time-space dynamics, synchronizes effects at each level. Delegating authority to subordinates who exercise initiative within the commander's intent empowers them to initiate activities that synchronize their units with those of the force without requiring instructions to do so.

2-31. Prudent selection of and attention to the CCIR facilitate integrating information. The commander must consider integration as part of the branches and sequels to a plan. He must understand capabilities and limitations of systems on the battlefield in deciding how to integrate activities. He must ensure coordination among the various units and activities participating in an operation to integrate them effectively.

2-32. Orders and plans are as brief and simple as possible, relying on subordinates to effect the necessary coordination and the human capacity for mutual understanding with minimum verbal information exchange—in other words, implicit communication. Decentralizing seeks to increase tempo and improve the ability to deal with fluid and disorderly situations. Moreover, reliance on implicit communication makes it less vulnerable to disruption of the information flow than centralized execution.

Trust

2-33. Trust is one of the cornerstones of leadership and mission command. Like loyalty, it must go up and down the chain of command; like respect, it must be earned. To function effectively, a commander must trust his subordinates, and they must trust him. Subordinates will more willingly exercise the initiative required in mission command when the commander trusts them. Likewise, commanders delegate greater authority to subordinates they trust

to act within their intent. The commander must also trust his colleagues commanding adjacent and supporting forces and earn their trust. This trust further empowers those commanders to act to resynchronize their actions with those of the one exercising initiative. This brings the organization back into synchronization without requiring detailed command from higher echelons. Once established and sustained, trust brings its own rewards to commanders and subordinates. It allows each level of command to focus on its operations rather than those of subordinates.

2-34. There are few shortcuts to gaining the trust of others. It is based on personal qualities, including professional competence, personal example, and integrity. It starts with warfighting technical and tactical skills because those are the easiest to demonstrate. Soldiers must see the values and attributes in action before they become a basis for trust. It also comes from successful shared experiences and training, usually gained incidental to operations but also engendered explicitly by the commander. During these shared experiences, the interaction of the commander, his subordinates, and their soldiers through communicating up as well as down, reinforces trust. They can see the chain of command accomplishing the mission, taking care of their welfare, and sharing hardships and danger. Often slowly gained, trust can be lost quickly under pressure and the extreme conditions of war.

Mutual Understanding

2-35. Mutual understanding both supports and derives from trust. However, like trust, it requires time to establish. From their experiences, commanders should understand the issues and concerns of their subordinates. Professional knowledge and study give subordinates an insight into command at higher levels. Then, too, commanders can train mutual understanding into their organizations. A good commander ensures that he understands his subordinates and that they understand him, implicitly and explicitly. Together, they can conduct operations under mission command in a cohesive and effective manner only when they have mutual understanding.

2-36. An important source of mutual understanding are the leadership skills of nonverbal communication and using a minimum of key, well-understood phrases and doctrinal terms or anticipating each other's thoughts. Nonverbal communications are faster and more effective than those through detailed and explicit communications. Commanders can aid mutual understanding by exhibiting a demeanor and personal mannerisms that reinforce, or at least do not contradict, the spoken message. Units develop the ability to communicate nonverbally through familiarity and trust, as well as a shared philosophy and experiences. Sharing a common perception of military problems leads to mutual understanding. This does not imply any requirement to come to identical solutions, as mission command stresses that understanding the effect to achieve is more important than agreement over how to achieve it. Measures that can lead to mutual understanding include officer professional development meetings, terrain walks, and professional discussions.

Command Based on Trust and Mutual Understanding:Grant's Orders to Sherman, 1864

In a letter to GEN Sherman dated 4 April 1864, GEN Grant outlined his plans for the 1864 campaign. Grant described Sherman's specific role as follows:

"It is my design if the enemy keep quiet and allow me to take the initiative in the spring campaign to work all parts of the army together, and somewhat toward a common center... You I propose to move against Johnston's army, to break it up, and to get to the interior of the enemy's country as far as you can, inflicting all the damage you can against their war resources. I do not propose to lay down for you a plan of campaign, but simply lay down the work it is desirable to have done, and leave you free to execute it in your own way. Submit to me, however, as early as you can, your plan of operations."

Sherman responded to Grant immediately in a letter dated 10 April 1864. He sent Grant, as requested, his specific plan of operations, demonstrating that he understood Grant's intent:

"...That we are now all to act on a common plan, converging on a common center, looks like enlightened war... I will not let side issues draw me from your main plans in which I am to knock Jos. Johnston, and to do as much damage to the resources of the enemy as possible... I will ever bear in mind that Johnston is at all times to be kept so busy that he cannot in any event send any part of his command against you or Banks."

Timely and Effective Decisions and Actions

2-37. Making and communicating decisions faster than the enemy can react effectively creates a tempo with which the enemy cannot compete. Indeed, a tempo advantageous to friendly forces can place the enemy under the pressures of uncertainty and time. These decisions include determining the information that he needs; assigning missions; prioritizing, allocating, and organizing forces and resources; and selecting the critical times and places to act. Decision making during operations includes knowing how and when to adjust previous decisions. The speed and accuracy of a commander's actions to rapidly shift combat power to account for changing situations is a key component of agility. Finally, the commander must anticipate the activities and effects that occur after he makes the decision, to include secondary effects other than those intended, effects caused by the enemy's reaction to friendly actions, and effects on future operations. FM 6-22 discusses predicting second- and third-order effects of decisions.

2-38. To make timely decisions, the commander must understand the impact of his decisions on a complex operational environment. To help him understand, the staff works together to form the environment input of the COP. Understanding the environment includes civil considerations such as the population (with demographics and culture), the government, economics, nongovernmental organizations, and history among others. The commander continuously makes decisions that initiate and govern actions by subordinate forces throughout the operations process. In planning, the commander's decision (COA approval during the MDMP) takes the form of choosing among options. The commander makes execution or adjustment decisions during preparation or execution that exploit opportunities or resolve problems revealed from assessment. Chapter 6 defines and discusses these concepts.

2-39. Timely decisions and actions are imperative for effective C2. If a commander can consistently decide and act quicker than his opponent, the former possesses a significant advantage. By the time the slower commander decides and acts, the faster one can do something different, rendering his opponent's actions inappropriate. With such an advantage, the commander can maintain the initiative and dictate the tempo of the operation. Appendix A discusses this in the observe-orient-decide-act (OODA) cycle.

2-40. Mission command makes it easier to get timely decisions and actions that create and exploit the advantage. Some considerations are—

- Commanders must take enemy plans, capabilities, and reaction times into account when making decisions.
- Commanders who can make and implement decisions faster, even to a small degree, gain an accruing advantage that becomes significant over time; making decisions quickly—even with incomplete information—is crucial.
- Commanders should not agonize over finding a perfect solution to a battlefield problem; they should adopt a satisfactory COA with acceptable risk quicker than their foe. Later this chapter and Chapter 4 discuss acceptable risk in more detail.
- Because the decision process at the lower echelons of command is faster and more direct, commanders should push the decision cycle as low as possible to obtain faster decisions in battle. Commanders support decentralized by communicating ("describing") with subordinates and adjacent units early and often.

2-41. Commanders must adopt and combine both intuitive and analytical decision making as required. Because uncertainty and time drive most decisions, commanders should emphasize intuitive decision making as the norm, and should develop their leaders accordingly. Emphasizing experienced judgment and intuition over deliberate analysis, the intuitive approach helps to increase tempo and provide the flexibility to deal with uncertainty. The intuitive approach is consistent with the view that there is no perfect solution to battlefield problems. However, understanding the factors that favor analytical decision making when time is not a critical factor, commanders should adopt an analytical approach or reinforce intuitive decision making with more methodical analysis. In the latter case, the commander uses analysis to substantiate the intuitive decision, ensuring that it is at least suitable, feasible, and acceptable.

2-42. When time is available, the commander and his staff follow the MDMP, a highly analytical approach. As noted in FM 5-0, the MDMP can be used in a time-constrained environment to produce a complete plan. In this case, the commander uses his updated visualization to assess progress and formulate decisions for future actions within current and future operations. Streamlined processes permit the commander and staff to shorten the time between receiving orders or perceiving a need for adjustment and issuing orders to their subordinates. FRAGOs and WARNOs are essential in this environment. During this time-constrained process, many steps of the MDMP are conducted concurrently; to an outsider, it may appear that experienced commanders and their staffs omit key steps. In reality, they are using existing

products or conducting steps in their heads instead of on paper, and they use many shorthand procedures and implicit communication.

2-43. Commanders and their staffs must constantly assess where they are in relation to the ongoing operation and estimate how best to conduct that operation with a view toward posturing the force for future operations. The commander's visualization and the staff's estimates provide the tools for assessing, and they are continuous. The staff's running estimate is key to keeping the commander aware of feasible options. The staff must use newly collected information as the basis for replacing outdated facts and assumptions in their previous estimate, performing analysis and evaluation based on the updated or new information, and forming new or revised conclusions and recommendations. In turn, the commander's visualization focuses the staff's estimates. To dominate the enemy during operations, the commander must never be without options. This continuous process permits the commander to make timely decisions consistent with his vision of the end state.

2-44. Effective tactical decision making by calm, competent, confident commanders synchronizes operations. As information becomes available (and is transformed into understanding), the commander's visualization initiates the synchronization effort by the staff. It is refined through the wargaming process. It is a continuous process, as execution requires constant adjustment to unfolding battlefield events, including branches and sequels.

ART OF COMMAND

2-45. While all of the elements of command contain some aspects of the art of command, some depend more on the art and others more on the science. Authority is primarily a matter of statutes and regulations (science). The art in authority lies in establishing personal authority. FM 6-22 covers this primarily. Decision making involves a large measure of the art of command. This section discusses the art contained in decision making, to include some aspects of the methodology—visualize, describe, and direct—introduced in FM 3-0. As noted in FM 3-0, visualize is primarily art. Describe is a balance of art and science, with the art being mostly in commander's intent and planning guidance. Visualizing and describing will be discussed below. Directing is primarily science and is covered in FM 5-0. FM 6-22 covers the third element: leadership. This manual elaborates on a few specific elements of leadership that are peculiar to command.

2-46. The art of command lies in the conscious and skillful exercise of its authority to fulfill command responsibilities through decision making and leadership. The true evaluation of the art of command is not whether it uses specific techniques or procedures contained within this manual, but if the techniques and procedures used were appropriate to the situation. Expert performance in the art of command leads to mission accomplishment with fewest friendly casualties. The expertness of the art stems from years of schooling and training, self-development, and operational and training experiences.

DECISION MAKING

2-47. There are two basic ways to make decisions. The traditional view is that decision making is an analytic process based on generating several alternate solutions, comparing these solutions to some set of criteria, and selecting the best COA. The analytic approach aims to produce the optimal solution to a problem from among those solutions identified and emphasizes analytic reasoning processes guided by experience. This approach is methodical, and it serves well for decision making in complex or unfamiliar situations by allowing the breakdown of tasks into recognizable elements. It ensures that the commander considers, analyzes, and evaluates all relevant factors. It provides a methodology when the decision requires great computational effort. It provides good context for decisions, especially for explanations. It helps resolve conflicts among COAs when such exist. Finally, it serves inexperienced personnel by giving them a methodology to replace their lack of experience. Analytic decision making is time-consuming and is not appropriate to all situations, especially decision making during execution. The Army's analytical approach is the MDMP (see FM 5-0).

2-48. The other view, **intuitive decision making, is** the act of **making a decision that emphasizes recognition based on knowledge, judgment, experience, education, intellect, boldness, perception, and character**. It focuses on assessing the situation rather than comparing multiple COAs. It relies on the experienced commander's (and staff officer's) intuitive ability to recognize the key elements and implications of a particular problem or situation, reject the impractical, and select an adequate COA to solve a problem. Intuitive decision making replaces methodical analysis of options with assessment, obtains a satisfactory solution rather than an optimal one, and uses analysis to refine the decision. It is faster than the MDMP. The MDMP conducted in a time-constrained environment relies heavily on the concepts of intuitive decision making. But, intuitive decision making does not work well when the situation includes inexperienced commanders, complex or unfamiliar situations, or competing COAs.

2-49. Intuitive decision making can substitute for missing information, provide some assistance when acting in uncertainty, and significantly speed up decision making. Intuition in this context is the insight or immediate understanding that rapidly dismisses impractical solutions and moves to a feasible COA. This "art" comes from a combination of experience, training, and study by the commander.

2-50. Even in the best circumstances, the commander is unlikely to have perfect knowledge of the situation. He must often bridge the gap between what he knows at the time of the decision with a feel for the battle. Intuition is the ability to understand the important aspects of a situation without evident rational thought and inference. It starts from the range of experiences and reflections on similar occurrences by the commander in the course of his development as well as his knowledge of the experiences of others gained through the study of military history. Intuition provides insight that rapidly dismisses the impractical solution and moves to a feasible COA. Clausewitz described intuition as "the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection."

2-51. Intuition allows the commander to "read" the battlefield and do the right thing—faster, more accurately, and more decisively than the enemy. In battle, it is insight into what the enemy is probably going to do and playing that propensity against him. A commander can receive too much information and advice, or perceive he has not received enough information. Intuition helps him select the critical information if he has received too much and allows him to make a decision more quickly by filling in information gaps, avoiding "information paralysis." Intuition does not automatically infer rejecting logical analyses.

2-52. In practice, the two approaches are rarely mutually exclusive. Each approach has strengths and weaknesses. Selecting one over the other depends primarily on the experience of the commander and staff and how much time and information are available. The analytic approach is more appropriate when adequate time and information are available to choose among different COAs or the staff is inexperienced. The majority of tactical decisions during execution—made in the fluid, changing conditions of war when time is short and information is lacking or doubtful—will be intuitive. It is a mistake to use intuitive decision making when time and circumstances favor analytic decision making, and to attempt to use an analytic decision making process, such as MDMP, when circumstances do not permit it. Commanders can use training in the MDMP to develop intuitive skills in themselves and their staffs through interaction.

2-53. The commander may base an intuitive decision during execution on the situational understanding generated as part of a preceding MDMP (an analytical decision process). The staff may use part of the MDMP such as wargaming to verify or refine a commander's intuitive decision if time permits. When the commander directs the MDMP in a time-constrained environment, many of the techniques, such as choosing only one COA to focus on, depend on intuitive decisions. Even in the most rigorous analytic decision making, intuitive decision making helps set boundaries for the analysis and fills in the gaps that remain.

Visualizing

2-54. Human beings do not normally think in terms of data or even knowledge; they generally think in terms of ideas or images—mental pictures of a given situation. A commander bases his image of a situation not only on facts but also on his interpretation of those facts. He generates images from others' observations as well as his own. In general, the higher the level of command the more he depends on information from others and less on his own observations.

2-55. This can cause several problems. First, when a commander observes a situation firsthand, he has an intuitive appreciation for the level of uncertainty. However, when he receives information secondhand, he may lose that intuitive feel. This is especially dangerous in an impressive, high-technology display of information that appears especially reliable, but may, in fact, be hours old. Second, the sensing of a situation is usually more than an observer can communicate about a situation, not to mention the lack of time to communicate in a crisis. Third, each node or person can distort and delay information as it passes to its final destination. Finally, some systems may be vul

nerable to the enemy's innovative use of deception. Appendix B provides more detail on this subject.

2-56. Commanders need to develop three views of each situation. The first is a close-up of the situation: a "feel" for the action gained through personal observation and experience. The second view is an overview of the situation and the overall development of the operation. The third view is that of the situation from the enemy's perspective.

2-57. *Understanding the Dynamics of Operations*. Understanding the dynamics of operations begins with the human factors. It also means understanding the relationships in space, time, and activity among the three main factors in military operations.

2-58. **Human Factors**. In operations, the quality and cohesion of soldiers are critical to mission accomplishment. Military operations are dynamics in nature and affect as well as affected by human interactions. These human interactions occur within the friendly forces, within the enemy forces, and between the friendly and enemy forces. The commander must understand and use these relationships to overcome uncertainty and chaos, and maintain balance and focus of his forces. He can then unleash the initiative, audacity, creativity, judgment, and strength of character in his soldiers to seize and exploit opportunities during operations. The art of command involves exploiting these dynamics to the best advantage for friendly forces, and to the enemy's disadvantage. The commander must consider the condition of enemy forces as well as his own and ensure that the enemy suffers the pressures and consequences of operations more than do friendly forces.

2-59. The readiness of friendly forces, relative to the enemy, cannot be taken for granted. Military operations take a toll on the moral, physical, and mental stamina of soldiers, which, if left unchecked, can ultimately lead to their inability to accomplish the mission regardless of the condition of the enemy. The commander must factor these dynamics into plans and recognize the limits of human endurance. Commanders press the fight tenaciously and aggressively, accepting risks and pushing soldiers and systems to the limits—or even seemingly beyond in some cases—of their endurance for as long as possible. Part of the art of command lies in recognizing when to push soldiers up to their limits to attain success or further exploit a success already achieved and when to rest soldiers to prevent individual and unit collapse. Even the most successful violent encounters with the enemy can render friendly soldiers incapable of further operations unless the commander recognizes this and acts aggressively to counter this tendency. This is even more telling if the encounter with the enemy is unsuccessful.

Next to a battle lost, the greatest misery is a battle gained.

Wellington, July 1815

2-60. **Operations.** The dynamic relationships among friendly forces, enemy forces, and the environment create the complexity of operations. Understanding each separately is necessary but not a sufficient step to understanding the dynamic relationships among them. In turn, the complexity creates the requirement for control to inform command. Friendly forces compete with the enemy to find an operational advantage physically as well as

through information. This competition in information involves collecting and processing information at the level of fidelity necessary to support situational understanding that leads to an operational advantage and understanding how to apply this operational advantage in actions. Success comes from careful analysis, an understanding of the technical aspects of information collection and intelligence, a high level of training, and experience. Understanding these dynamics is the first step to visualizing them. Assigning a mission to a force brings the dynamics of these relationships into reality.

2-61. Friendly forces do not always perform to capabilities. They may have just received new replacements, or had an extended period of operations under heavy stress. A lack of repair parts may render equipment unavailable in expected quantities or curtail its full quality in operations. The friendly forces may have sustained sufficient casualties to make them less capable, experienced an enemy NBC attack, or just arrived in theater and are not yet acclimated.

2-62. During operations, the enemy tries to execute his plan, which may upset the friendly plan, desynchronize friendly forces' effects, and destroy friendly units and defeat friendly actions. He exploits his advantages to further his own operation and to defeat the friendly forces by reacting to their moves.

2-63. The environment is neutral in terms of favoring one side over the other. The environment can keep both sides from performing up to their capabilities or can be used to advantage by the force best equipped and trained to cope with its effects. The commander must understand these effects and account for them. See Appendix B for a discussion of the effects of the environment.

2-64. During operations there is an interrelationship between friendly forces, enemy forces, and the environment. The complexity and unpredictability of these interactions add to the fog and friction of warfare. The art of command must account for these interrelated effects, visualizing the second- and third-order effects, and developing COAs that reduce their negative impacts and exploit the positive impacts on mission accomplishment.

2-65. *Commander's Visualization.* **Commander's visualization is the mental process of achieving a clear understanding of the force's current state with relation to the enemy and environment (situational understanding), developing a desired end state which represents mission accomplishment, and then subsequently determining the key tasks involved in moving the force from its current state to the end state.** Commanders begin to visualize the end state when they receive or perceive a mission. They start by applying their current situational understanding of where they are to this mission. As they analyze or receive the staff's analysis of the mission, they develop a mental image of the friendly forces in relation to the enemy and the environment, and possible future operations at the conclusion of the operation or the end state.

2-66. Commander's visualization (see Figure 2-2) is a way of mentally viewing the dynamic relationship between friendly forces, enemy forces, and the environment at the present state while conducting operations against an opposing force over time. This occurs until the end state of an operation. It focuses on three main factors:

- Foreseeing a feasible outcome to the operation that results in mission success and leaves the force postured for the next operation (the end state). This is the most important factor of the coimmander's visualization.
- Understanding the current state of friendly and enemy forces with respect to the environment and each other. This is situational understanding (SU), derived from applying judgment and experience to the COP through the filter of the commander's knowledge of the friendly forces, threat, and environment. This SU includes physical factors (such as location of forces), human factors (such as fatigue and morale), and the relationships among friendly and enemy forces and the environment that potentially represent opportunities and threats for friendly forces.
- Visualizing the dynamics between the opposing forces during the sequence of actions leading from the current situation to the end state. This includes evaluating possible enemy reactions and friendly counters to those moves.
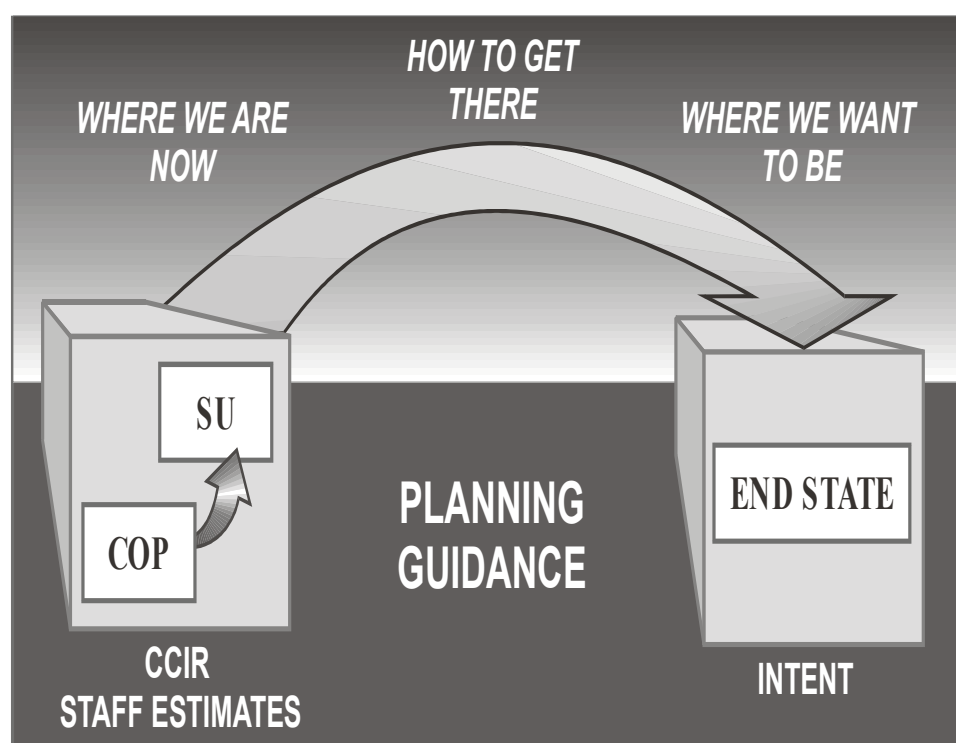

Figure 2-2. Commander's Visualization

Commander's visualization is the key in combining the art of command with the science of control as discussed in Chapter 4.

Skilled Judgment

2-67. Commanders decide using judgment acquired from experience, training, study, imagination, and creative and critical thinking. Judgment forms

an estimate based on available information, filling gaps in information with an informed *intuition*. *Experience* contributes to judgment as it provides an empirical basis to rapidly identify practical COAs and dismiss impractical ones. *Study* is the final component of judgment; through it the experiences of others expand the experience of the commander. It may provide knowledge essential to the commander's understanding and decisions and the relationship of the situation that he and his forces face in war.

2-68. The commander must use judgment in applying doctrine to exercise command, whether the application is visualizing, deciding, or leading. Intellect, doctrine, and experience combine to shape this judgment, expanding it to more than an educated guess. Moreover, the commander using his informed judgment must first apply doctrine to a specific situation. In this case, the art of command lies in interpreting the doctrine as it applies to the specific tactical situation.

2-69. Through informed judgment, the commander must also recognize when the doctrine (or parts of the doctrine) will not adequately serve his needs in a specific situation. In that case, he must base his decisions and actions on the specific circumstances he faces described by the factors of the situation—mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC). A commander who deviates from doctrine based on circumstances should make a point of communicating his rationale to his subordinates using doctrinal terms to limit confusion while simultaneously cautioning that he has deviated and explaining the implications. This helps guard against the perception of either disdain for authority or ignorance of doctrine.

2-70. Judgment is required for selecting the critical time and place to act, assigning missions, prioritizing, managing risk, allocating resources, and leading forces. Thorough knowledge of the science of warfighting, a strong ethical sense, and understanding of enemy and friendly capabilities form the basis of the judgment required by commanders. The art of judgment becomes increasingly more refined as the commander becomes more experienced. With experience, the commander relies on his ability to assess the situation after processing available information (although common sense still guides even experienced commanders). As responsibilities increase, commanders require greater judgment, proceeding from knowledge, intellect, and increasing experience. Judgment allows the commander to distinguish between calculated risks essential to successfully conducting operations, and military gambles based on potentially disastrous rashness (see paragraph 2-81 for a discussion of military gambles).

2-71. The commander applies judgment in several important dimensions. How he applies his judgment in each of these dimensions should proceed from how he intends to achieve mission command. These dimensions are—
- Decentralization
- Subordinates' initiative
- Risk
- Resolve
- Resource allocation

- Use of staff

2-72. **Decentralization**. Applying judgment lies in balancing the proportions of decentralized and centralized execution for each operation, leaning toward decentralization wherever possible. While decentralized execution is the Army's doctrinal solution to uncertainty and increasing tempo in operations, it is not the only solution. Centralized execution is appropriate for management of scarce resources, especially those that can act throughout a commander's AO, or in certain cases to achieve decisive massing of effects. It is also appropriate for specific operations when greater than normal coordination—either within the force or with other services' or nations' forces—is involved. If the organization has not trained together adequately or has too many newly assigned major subordinate organizations, the commander may centralize execution until he has trained his organization in more decentralized operations. Centralization contributes to loss of overview on the part of subordinates, resulting in a loss of context by which subordinates may exercise disciplined initiative. These circumstances, and the conditions governing their application, remain the exception rather than the norm in doctrine.

2-73. **Subordinates' initiative**. Individual initiative is the assumption of responsibility to decide and initiate independent actions when the commander's concept of operations or order no longer applies or when an unanticipated opportunity within the commander's intent presents itself. It is contrasted with tactical initiative that involves seizing and dictating the terms of action throughout the battle or operation.

2-74. Mission command demands individual initiative using the commander's intent to guide subordinates' individual initiative, relying on them to provide that essential coordination without prescriptive orders. While doctrine stresses exercising individual initiative at the lowest possible level, all soldiers recognize that such initiative may cost coordination. For most operations, the benefits of exercising initiative outweigh the cost in coordination. However, for some operations such cost may be unacceptable. In the exploitation by American forces across France in August 1944, initiative was an unquestioned requirement for Patton's success. But, in Operation COBRA, the multi-division, joint operation that allowed the breakout from Normandy, coordination was the governing factor.

2-75. Even when exercising initiative, neither a commander nor a subordinate can exercise "free will" as an independent actor; such exercise must be disciplined initiative. First, mission command charges the subordinate commander to take the initiative always if presented with the choice of losing an opportunity for success or responding to an unanticipated threat to the mission or force. However, if time permits, the subordinate should attempt to communicate his new situational understanding and recommended COA to his higher commander. The subordinate may depart from his orders if he has not been able to contact his commander, or if there is not time for him to obtain permission to seize a fleeting opportunity. The main criterion in this case is the urgency of the situation. When a subordinate can communicate his intentions to his commander, the higher commander can assess the implications for his organization as well as for other operations and set in motion supporting actions. However, if any doubt exists about contacting the higher

commander or acting, the subordinate should act within his commander's intent.

2-76. Second, the commander may only exercise this initiative within his higher commander's intent. In this case, the commander's intent provides unity of effort, which is also the aim of coordination. His exercise of individual initiative must lead to benefits that outweigh the costs to the coordinated operations of others.

2-77. Third, a commander should exercise initiative in taking advantage of opportunity for victory—whether in terms of greater damage to the enemy, rapid completion of the mission, or less cost to his own forces—as opposed to preventing defeat.

2-78. Command by negation is a technique that fosters initiative. It encourages subordinates to exercise initiative by informing the commander of their actions but not waiting for permission. After informing his superior, the subordinate executes the operation or acts unless his superior specifically denies him permission. The subordinate may only exercise initiative in accordance with the commander's intent; however, the subordinate does not have to wait for a breakdown in communications—or a crisis situation—to learn how to implement his commander's intent independently of the commander's direct participation.

2-79. Commanders also must demonstrate a willingness and ability to act independently within the framework of the higher commander's intent. Command by negation also fosters trust and mutual understanding. It rests on an assumption that permitting honest mistakes develops subordinates so that they can execute mission command fully when they cannot communicate with their commander. As subordinates realize that their commander allows their decisions, they trust his support and exercise disciplined initiative. As commanders see a subordinate exercising initiative within their intent, they gain trust in that subordinate's judgment and initiative. Finally, through practicing this technique, commanders and subordinates develop mutual understanding in after-action reviews.

2-80. **Risk**. Using initiative requires a training and operational climate that promotes calculated, disciplined risk-taking focused on winning rather than preventing defeat, which sometimes may appear as the safer option. Mission command requires commanders who seek initiative and take risks, making decisions where the outcome is uncertain. Because uncertainty exists in all military operations, every military decision contains risk. Among key elements of the art of command are deciding how much risk to accept and minimizing the effects of accepted risk. Since the commander can only reduce the uncertainty by gathering more information—which conflicts with timeliness in decision making—he must accept risk. The willingness to take calculated risks requires military judgment to reduce risk by foresight and careful planning, and to determine whether the risk is worth taking to grasp fleeting opportunities.

2-81. A calculated risk should not be confused with a gamble. Accepting a **calculated risk** in decision making **is** acceptable when **the commander can visualize the outcome in terms of mission accomplishment or damage to his force, and evaluate the outcome as worth the cost to**

his force (calculated risk). A **military gamble** in decision making—normally not acceptable—**occurs when a commander risks his force to achieve a mission without a reasonable level of information about the outcome**. In the case of the gamble, the commander makes his decision based on hope rather than judgment. The situations that justify a military gamble occur when defeat or destruction of the friendly force is only a matter of time and the only chance for mission accomplishment or preservation of the force lies in the gamble.

Calculated Risk or Military Gamble: Operation HAWTHORNE, Dak To, RVN, 13 June 1966

At 0230, 7 June 1966, the battle of Dak To began when a battalion of the 24th North Vietnamese Army (NVA) Regiment attacked an artillery fire base manned by elements of 1st Brigade, 101st Airborne Division. While the forces at the fire base defeated this attack, two battalions of the 101st Airborne were lifted in by helicopters to envelop the 24th NVA Regiment in the Dak To area. One battalion, 1/327th, attacked north up Dak Tan Kan valley while the other, 2/502nd, attacked toward the south. The 1/327th contacted the NVA first and held them. The 2/502nd established a blocking position initially but then began a sweep south to link up with 1/327th.

The 2/502nd used its famous "checkerboard" technique in its advance, breaking down into small units, with squad-size patrols searching designated areas into which the battalion had divided its AO. This technique covered ground, but the squads were too weak to face stiff opposition. The company commanders had to assess when they were getting indicators of heavy enemy forces and assemble their companies for action. As Co. C advanced in its AO on 12 June, the CO, CPT William S. Carpenter, Jr., sensed those indicators and concentrated his company, but it was surrounded and in danger of being overrun by an estimated NVA battalion. As he spoke to his battalion CDR, LTC Hank Emerson ("the Gunfighter"), the sounds of the screaming, charging enemy could be heard over the radio. CPT Carpenter reportedly called for an air strike "right on top of us." The only air support available was armed with napalm; when it hit, it broke the enemy attack and saved the company. A day later, another company linked up with Co. C, and they continued with the mission. The battle of Dak To was a staggering defeat for the NVA.

CPT Carpenter later stated privately that he realized that the survival of his company was at stake, but he still did not call the air strike directly in on his position. Instead, he told the FAC to use the smoke marking of his company's position as the aiming point for the air strike. He knew that conventional air strike techniques and safe distances would not defeat the enemy. He also reasoned that the napalm would "splash" forward of his position, causing more enemy than friendly casualties. The air strike did just that. CPT Carpenter believed he was taking a calculated risk, but a high-risk one from the standpoint of the safety of his troops, in order to defeat the enemy. His action could also have been considered a justified gamble, as the survival of his force was at stake. By the time another company from 2/502nd fought its way to Co. C to relieve it, the NVA would have destroyed Co. C. CPT Carpenter and his first sergeant, 1SG Walter Sabaulaski, received the DSC for their heroism.

2-82. The commander alone must decide what risk his force will accept during mission execution. He must exercise the art of command when weighing his obligation to accomplish the mission at least cost to his force. He must decide, using subjective factors and his seasoned judgment whether to accept

high risk. The risk assessment and management process helps him determine what level of risk exists and how to mitigate it. His decision lies in whether or not to accept that risk for perceived gains or advantages.

2-83. Consideration of risk (both tactical and accident) begins as the commander plans his operation and designates and weights the decisive operations. To do this he must accept risk elsewhere to accomplish the mission. In addition to mission accomplishment, the commander must consider how the force will be postured for subsequent operations in his risk decision. The commander must evaluate whether the command can recover if he decides wrongly or if it will be in a position to seize an unexpected advantage over the enemy. Doctrine on the process of systematically analyzing risk factors is found in FM 3-100.14.

2-84. **Resolve**. Another key dimension in applying judgment is resolve in pursuing the mission versus obstinacy in pursuing a fruitless COA. While the former is a command quality, the latter leads to excess casualties and even mission failure. The commander applies resolve to maintain focus on the mission of the operation or battle, maintaining flexibility in the methods or resources he dedicates to attain that goal. Applying resolve allows the commander to pursue the mission steadfastly at acceptable cost, even at physical risk. Resolve allows him to see the possibilities for success despite minor or even major setbacks, casualties, and hardship. Obstinacy consists of pursuing an ineffective method or dedicating resources to an unproductive COA while not making any progress toward accomplishing the aim. The art of command lies in recognizing which setbacks and hardships will not really affect accomplishing the mission and which are indicators of failure. Indeed, as the following examples demonstrate, resolve consists of focus on the mission and flexibility in the method to accomplish the mission.

Resolve: Mustafa Kemal at Gallipoli (April 1915)

On 25 April 1915, the Allies launched the Gallipoli campaign. Unfortunately for them, Mustafa Kemal's decisive and tenacious leadership action at a critical point in the battle preserved the Ottoman defenses. His troops seized the initiative from superior forces and pushed the Allied invasion force back to its bridgehead. The result was nine months of trench warfare, followed by the Allies' withdrawal from Gallipoli. First, Kemal exercised individual initiative to prevent Allied success, focusing his initial efforts on decisive points. He exhibited resolve in holding until reinforcements arrived.

The German Fifth Army commander, General von Sanders, expected a major Allied landing northeast of the actual landing. The British conducted a feint there; however, two ANZAC divisions landed as the main effort at Ari Burnu, 30 miles to the south. Sanders had left only one Ottoman infantry company to guard the cove there. LTC Kemal, 19th ID commander, was informed of the fighting at Ari Burnu. Although pre-war plans had established contingencies for the division's use, he received no word from his superiors regarding the developing scenario. Understanding the critical time factor, since a major Allied landing could easily split the peninsula, he decided to act without waiting for approval from his senior commander. He set off with a small force to assess the situation personally. Recognizing the importance of the hilly terrain, Kemal focused his attention on decisive points. At this time, he encountered fleeing Turkish soldiers. Kemal emphatically dismissed their fears and ordered them to lie down in hopes of making the pursuing Allies

believe they faced an ambush. The ruse bought Kemal valuable time, as it allowed for the arrival of advance elements from 57th Infantry Regiment.
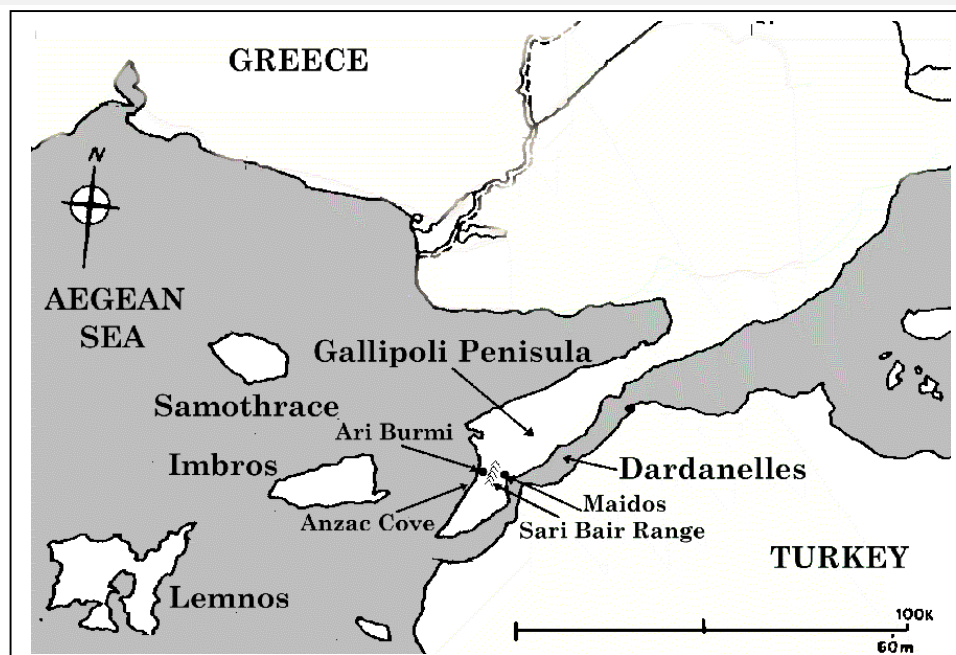
Kemal now engaged the enemy. He impressed upon his men the importance of controlling the hilltops at all costs, issuing his famous order: "I am not ordering you to attack. I am ordering you to die. In the time it takes us to die, other forces and commanders can come and take our place." Despite being outnumbered three-to-one, the Turks accomplished their mission, and the Allies were pushed back toward their bridgehead. Around noon, Kemal learned that there would be no additional support from the division. He met personally with the corps commander to impress upon him the gravity of the situation, and managed to convince him that if the Allies captured the high ground around Ari Burnu, they would be in an excellent position to cut the peninsula in half. The corps commander consented to Kemal's request for additional forces. Both sides suffered heavy casualties, and only nightfall brought a lull in the fighting.

Kemal's resolute leadership had shaken his opponent's morale. Allied commanders had serious reservations as to whether their men could withstand another day of artillery barrages. The men were ordered to establish impregnable defensive positions in anticipation of a fresh Turkish assault, which inadvertently provided Kemal with time to revive his troops. There was some sniping and a few local encounters on 26 April, and on 27 April Kemal finally received major reinforcements. The front now stabilized and the opposing armies settled into trench warfare. On 16 January 1916, the Allies admitted defeat and withdrew.

Kemal's decisive actions prevented the ANZAC forces from splitting the peninsula. He instinctively understood the enemy's intent and, recognizing the critical time factor, took the initiative without waiting for his senior commander's approval. He moved with confidence and courage, resolutely committed to concentrating his combat power to seize and hold key terrain. Confronted with superior forces, he refused to second-guess his initial decision, but rather demanded and, through force of leadership, obtained supreme sacrifices from his men.

Obstinacy: Frederick the Great at Kunersdorf (12 August 1759)

Although considered the foremost commander of his day, Frederick the Great had his share of setbacks, one of the worst of which came during the Seven Years' War at Kunersdorf. On 12 August 1759, his army was routed there by a combined Russian and Austrian force. Much of the blame for the defeat lies with Frederick himself: his ill-considered battle plan, his failure to measure the combat power of his own forces against that of his enemy, and his stubborn insistence on pressing a hopeless attack were all critical elements in the Prussian defeat.
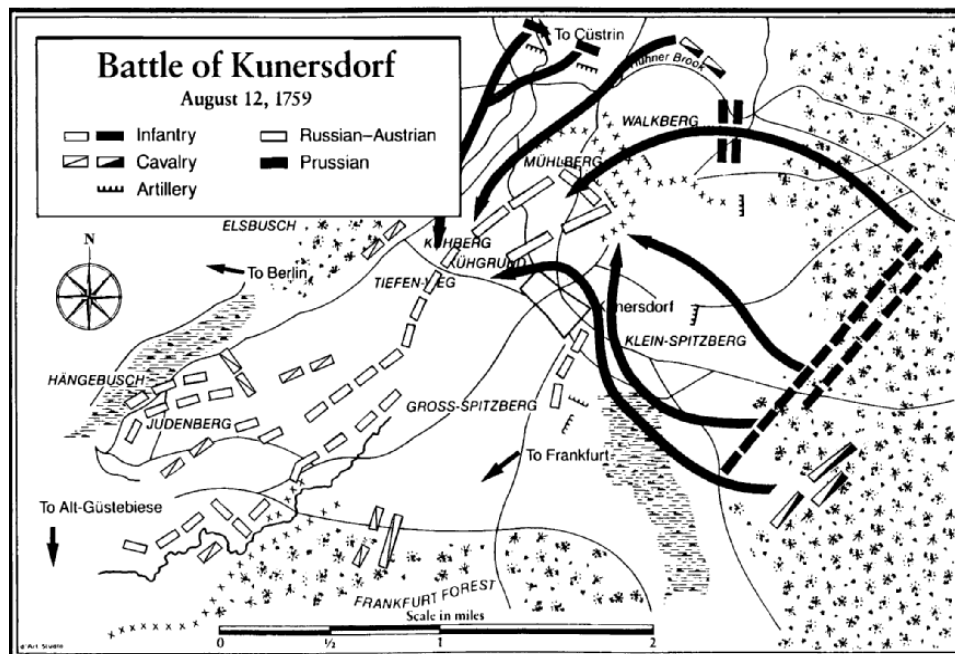
In late July 1759, a Russian army combined with an Austrian corps on the Oder River, the forces totaling more than 64,000 men. Frederick's force numbered 50,000, but it had been hastily assembled from various detachments, and losses in earlier campaigns had both decimated the officer corps and seriously reduced the quality of the rank and file. Frederick decided, nevertheless, to attack the Russians. By 10 August he had concentrated his army and crossed the Oder in a forced march. His troops were short of food and water and were worn out from the heat. A hasty reconnaissance had failed to disclose that the allied forces had fortified themselves on high ground north of Kunersdorf, and that their positions were reinforced by obstacles and surrounded by marshy ground and forest. Frederick decided to flank the enemy with his main body, and the Prussians began an exhausting 8-hour march around the Austro-Russian entrenchments. Frederick's grasp of the enemy deployment, however, was incorrect, and instead of the expected exposed flank, he faced the allied position's strongest sector. Despite this and the loss of surprise, Frederick opted to proceed with the attack. He was initially successful, but because of the terrain he was unable to exploit this success. Prussian attacks were repeatedly repulsed, resulting in heavy casualties and low morale. Frederick's subordinates now advised him to call off the attack and accept the limited success gained in the initial attack. He stubbornly insisted, however, on continuing the attack and committed the last of his reserves. His detachment on the right was cut to pieces, and cavalry charges on the left were canalized by ponds and broken up by entrenched Russian artillery. The

Austrians then launched a cavalry attack against the Prussian left and swept the Prussian cavalry from the field. The Prussian infantry's morale was completely shattered, and Frederick's army was reduced to a fleeing, panic-stricken mob.

Frederick was defeated because he failed to see the terrain, failed to correctly assess the enemy and his own force, and failed to mass decisive combat power at the right time and place while protecting his force. In his haste, he had proceeded without a proper reconnaissance of the area, vastly underestimated his opponents' capabilities, and was blind to the exhaustion of his own troops. Moreover, by obstinately pressing a futile attack, contrary to the advice of his subordinates, he fatally compromised his army.

2-85. **Resource Allocation.** Applying judgment when allocating resources is one of the key areas of the art of command. There are three dimensions to this aspect of the art: the tension between effectiveness and efficiency; the application of the principle of economy of force; and short- versus long-term benefits.

2-86. The first dimension of this aspect is the art of balancing effectiveness versus efficiency. There is a distinct hierarchy of considerations in the tension between effectiveness and efficiency. The first and foremost consideration is mission accomplishment, or effectiveness. In planning and execution, this must be the most important consideration. A plan that does not accomplish the mission, regardless of how efficient it is, is worthless. If there are different ways to accomplish the mission, then the second consideration, efficiency, comes into play. Within considerations of efficiency, there is also a hierarchy. The first consideration is to conserve the lives of soldiers, even if it wastes other resources. The commander should use material resources lavishly if they will save lives. Only when mission accomplishment and soldiers lives are accounted for will the saving of other scarce resources take precedence. Commanders have an obligation to conserve all resources and must act accordingly, but accomplishing the mission and preserving soldiers' lives take precedence.

2-87. The second aspect is economy of force. The commander must weight his decisive operation to ensure mission success. This demands that he allocate minimum essential combat power to other/shaping operations. The art lies in knowing what is minimum essential combat power for other/shaping operations. The commander must allocate sufficient resources to subordinates to accomplish their missions, whether decisive or shaping. However, shaping operations should always have the minimum resources necessary; the commander weights the decisive operation with all possible combat power. If a subordinate believes he has not received sufficient resources, or he sees an unacceptable cost to the force to accomplish his mission, he must inform his commander of his difficulties.

2-88. The third aspect of the art, short-term versus long-term benefits, directly relates to applying judgment when allocating resources. Commanders must accomplish their missions at least cost to the force and remain able to conduct the succeeding operation. At lower echelons, the focus is on the immediate operation—the short term. At progressively higher echelons, long-term considerations become more important. Among these are the cost to the force and the effects of the current operation on the ability to execute follow-on operations. The commander must be able to balance the need for immedi

ate mission accomplishment with his requirements to conduct subsequent operations.

2-89. **Use of Staff**. The final dimension of applying judgment lies in the commander's use of his staff. The commander relies on and expects initiative from his staff officers as much as from his subordinate commanders. He can also delegate much authority to them and use his time for the more creative aspects of command, the art. How much the commander delegates to his staff—and his personal involvement in its activities—requires skilled judgment.

2-90. Within the headquarters, the commander must exercise his judgment to determine when to intervene and participate personally in staff operations as opposed to letting his staff operate on its own based on his initial guidance. The commander cannot try to do everything himself or make every decision himself; such participation would not allow his staff to gain the experience that mission command requires. However, he cannot simply "rubber stamp" staff output produced without his input. He must participate in critical aspects of staff work to guide the staff. He uses his situational understanding and visualization to provide guidance from which the staff can produce plans and orders for his approval. As with his interaction with subordinates, the key is for the commander to determine where he should best use his limited time for greatest effect—where his personal intervention will pay the greatest dividend.

Describing

2-91. Unless subordinate commanders and staffs understand the commander's visualization, there is no unifying design. The commander must communicate his visualization by describing it in doctrinal terms. Using terms suited to the nature of the mission and their experience, commanders describe their visualization through:

- Commander's intent.
- Planning guidance.
- CCIR.

2-92. Commanders may also describe their visualizations graphically using doctrinal graphics for easier communication as well as verbally. Describing is not a one-time event. As the commander confirms or modifies his visualization, he continues to describe his visualization to his staff and subordinates so they may better support his decision making. Better effort in describing leads to better comprehension by subordinates of the context of his decision and better decisions on their part when exercising individual initiative.

LEADERSHIP

2-93. After the commander makes his decision, he must still guide the organization in its execution. To lead, the commander cannot be a prisoner of a command post. He leads by example and by direction, positioning himself where he can best command without depriving himself of the ability to respond to changing situations. Modern technology allows him, from any location within the AO, to obtain the information he needs to assess the operation and risks, and to make the necessary adjustments. After forces have been put

in motion, the commander must provide the strength and will to follow through with his choices. He must also possess the wisdom to know when he must change them and make further decisions. FM 6-22 discusses leadership actions when executing.

Command Presence

*A commander in battle has three means of influencing the action: fire support…; **his personal presence on the battlefield** [emphasis added]; and the use of his reserve.*

LTG Harold G. Moore (USA, Ret.)
We Were Soldiers Once…and Young

2-94. Establishing command presence makes the commander's knowledge and experience available to his subordinates. His presence also communicates his intent. Skilled commanders communicate tactical and technical knowledge that goes beyond surface plans and procedures. Subordinates can use this knowledge of their commander's leadership style to guide their tactical decisions when facing unanticipated situations. Establishing command presence does not require providing subordinates detailed procedures and telling them to follow them, nor does it include second-guessing subordinates' performance in a specific instance. Command presence establishes a background for all plans and procedures so that subordinates can understand how and when to adapt them to achieve the commander's intent. Commanders can establish command presence in a variety of ways, to include the following—

- Briefings
- Back-briefings
- Rehearsals
- Leader's reconnaissance
- On-site visits
- Commander's intent
- After-action reviews
- Commander's guidance

2-95. How well these techniques establish command presence depends on the actions of the commander or those acting for him who conduct or participate in them. The commander, or his representative, must use the occasion to gather and impart information in the form of knowledge about his views of the organization's purpose, goals, constraints, and tradeoffs. This exchange can take the form of direct communication, questioning, discussing, or conversing in informal settings. Finally, personal example establishes command presence. Certain control techniques, such as liaison officers and directed telescopes discussed in Chapter 3, also contribute to command presence.

HISTORICAL VIGNETTE

Establishing And Using Command Intent: Vii Corps And The Ruhr Encirclement (March-April 1945)

US Army doctrine during World War II accorded well with mission command. A subordinate commander, guided by the overall operational plan and mission, was responsible for acting in the absence of, or when the situation was no longer covered by, orders. Personal conferences between the higher commander and his subordinates ensured that they understood the general plan. Commanders were to issue clear and concise orders to give subordinates freedom of action appropriate to their professional knowledge, the situation, their dependability, and the team play desired. Orders were to contain only such details or methods of execution necessary to ensure that the subordinate unit's actions conformed to the overall plan.

VII Corps (First Army) under MG Collins entered action in Europe on 6 June 1944. His staff served with him almost uninterruptedly before and through the campaign, and this familiarity helped ensure that Collins' subordinates would understand and carry through his intent in issuing and executing their own orders. Collins' command techniques supported subordinates' exercise of initiative. He discussed his principal decisions, important enemy dispositions, and principal terrain features with major subordinate commanders. If he could not assemble these commanders, he visited them individually as time permitted, with priority given to the commander of the decisive operation. During operations, he visited major subordinate units to obtain information on enemy reactions and major difficulties encountered, again giving priority to units conducting the decisive operation. His general and special staff officers visited other units to report critical matters to the corps chief of staff. Upon returning to headquarters, Collins met with his staff to review the day's events and the changes he had directed, after which the G3 prepared and distributed a daily operations memorandum confirming Collins' oral instructions and adding any other information or instructions developed during the staff meeting. During the European campaign, VII Corps issued only 20 field orders, an average of two per month, to direct operations.

For the Ruhr encirclement, First Army's mission was to break out from its bridgehead at Remagen, link up with Third Army in the Hanau-Giessen area, and join Ninth Army of 21st Army Group near Kassel-Paderborn. VII Corps would head for Altenkirchen and then cross the Dill River.

The attack began on 25 March 1945, with VII Corps passing the enemy's main defensive positions. By this time, Eisenhower had decided to isolate the Ruhr from north and south by encirclement, the junction point being the Kassel-Paderborn area. On 26 March, VII Corps took Altenkirchen and, on 27 March, crossed the Dill River. First Army assigned VII Corps as the decisive operation for the linkup with Ninth Army at Paderborn. Collins had only 3d AD and 104th ID available, and the objective was more than 100 kilometers away. Nevertheless, 3d AD, commanded by MG Rose, was directed to reach Paderborn in one day, and Rose, in turn, assigned his subordinates the decisive and shaping operations. The decisive operation halted 25 kilometers short of Paderborn at 2200 on 29 March. The next day Rose was killed in action as the Germans strongly defended Paderborn; 3d AD's lead elements were held 10 kilometers from the town. The corps received intelligence of German counterattack forces building around Winterberg, southeast of Paderborn. To counter this, 104th ID took the road junctions of Hallenberg, Medebach, and Brilon. First

Army ordered 9th ID over to VII Corps. III and V Corps shielded VII Corps from any attacks from outside the ring.
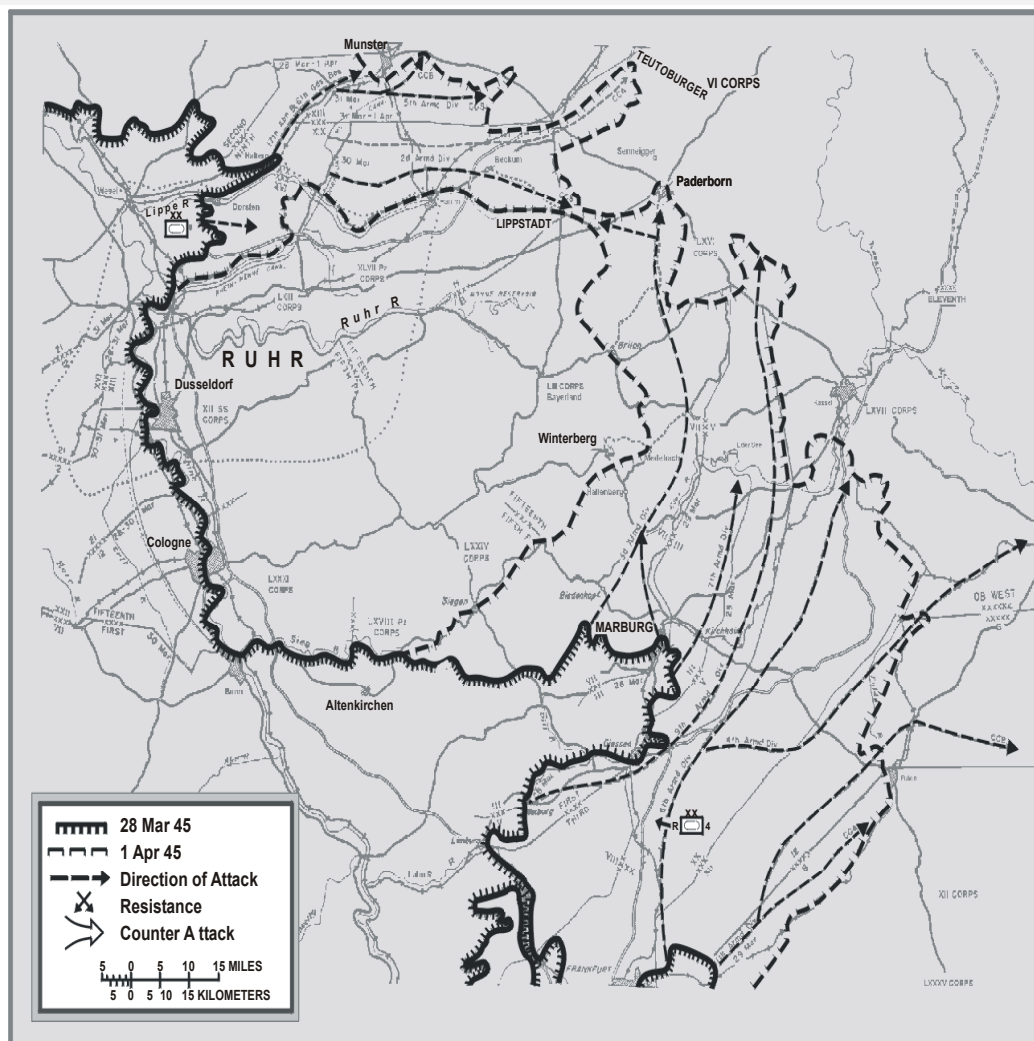
As the situation developed, Collins adapted the corps plan to his situational understanding, while remaining within the framework of the higher command's intent. By 31 March, German attacks against 104th ID, increasing German resistance around Paderborn, 3d AD's reorganization necessitated by Rose's death, and the preparation of a coordinated attack against Paderborn required Collins to contact the Ninth Army commander and suggest a change in the linkup point. They agreed on the village of Lippstadt, halfway between Paderborn and the lead elements of 2d AD. The linkup was effected on 1 April, and Collins personally led a task force from 3d AD, meeting weak resistance in its push west, made radio contact with elements of 2d AD and physical contact by 1530 at Lippstadt to close the Ruhr pocket. Later that day, VII corps successfully overcame the German defenses at Paderborn; the encirclement trapped Army Group B, including Field Marshal Model, 5th Panzer and 15th Armies and parts of 1st Parachute Army, along with seven corps, 19 divisions, and antiaircraft and local defense troops—a total of nearly 350,000 soldiers. The reduction of the Ruhr pocket would take another two weeks.

The Ruhr had been selected as the objective even before the Allies landed in Europe, and all major commanders appear to have understood this. However, 12th Army Group only gave the actual orders for the encirclement in late March, when the success of First Army's breakout had become clear. The actual linkup was eventually effected between VII Corps and Ninth Army, principally on Collins' understanding of the intent and initiative at the execution level. He practiced mission-type orders by giving only one or two immediate objectives to each major subordinate command and a distant objective toward which to proceed, without specific orders. This gave his subordinates freedom of action and exercise of initiative, while still providing essential elements for coordination among the subunits. Establishing the overall command intent enabled forces on both sides of the encirclement to direct efforts toward its fulfillment. When the lack of lateral communications hindered coordination, subordinates took the initiative to accomplish the mission and fulfill the command intent as they understood it. Understanding command intent allowed operations to resume the day after Rose was killed. When the original concept of operations, meeting at Paderborn, could no longer be obtained, Collins proposed an alternate linkup point. Finally, with elements of his corps defending at Winterberg, attacking at Paderborn, and moving to Lippstadt, Collins positioned himself with the task force from 3d AD to make the linkup—the decisive operation that day for his corps, First Army, and 12th Army Group.

CONCLUSION

2-96. Ultimately command reflects everything the commander understands about the nature of war, warfighting doctrine, training, leadership, organizations, materiel, and soldiers. It is how he organizes his forces, structures the operation, and directs the synchronized effects of available and allocated assets toward his visualized end state. It is built on unit training and mutual understanding of all soldiers within that unit or organization about how their organization operates. It is the expression of the commander's professional competence and leadership style, and his translation of his vision to the unit. Command alone is not sufficient to translate that vision to the unit and to assure mission accomplishment; control is also a necessary condition.

Chapter 3

Control

The test of control is the ability of the leader to obtain the desired reaction from his command

Infantry in Battle, 1939.

Whereas command pertains to an individual, control is systemic; it involves the whole organization, especially those who are part of the command and control (C2) system. The authority of command provides the basis for control.

Without command, control would not exist. Control serves the commander, allowing him to regulate forces and operating systems. Control is mostly science, but also some art. It employs objective data, analytic processes, and scientific methods and theories in assessing, planning, preparing for, and executing operations. Control allows the commander to monitor his forces, the enemy, and the environment during operations. Through this monitoring, he can identify new decision points, opportunities to exploit success, and threats to mission accomplishment. Through control, he can adjust the operation to account for changing circumstances by modifying his visualization of the end state, the current state, or the process of getting from the current state to the end state.

NATURE OF CONTROL

3-1. The nature of control begins with its definition, to include why it is even necessary. It involves the elements and principles of control that guide applying the elements in C2.

3-2. **Control is the regulation of forces and other battlefield operating systems (BOS) to accomplish the mission in accordance with the commander's intent. It includes collecting, processing, displaying, storing, and disseminating relevant information (RI) for creating the common operational picture (COP) and using information during the operations process.** Control allows the commander to direct the execution of operations to conform to his intent. Unlike command functions—which re

main relatively similar among echelons of command—control functions increase in complexity with each higher echelon. Control extends over the entire system and includes the airspace over the area of operations (AO). Each commander, from company to corps, controls his forces and is in turn influenced by these forces.

3-3. The impediments to mission accomplishment that act before, during, and after operations create the requirement for control. First and foremost among these impediments is the enemy. He may act against the friendly commander himself, or the commander's C2 system and forces. He may use lethal weapons or nonlethal effects with information operations (IO), including military deception. The second impediment to mission accomplishment is the environment. The often unpredictable impact of these first two impediments constitutes what Clausewitz meant by the "fog" of uncertainty characteristic of war in the quotation in Chapter 1. He goes on to say:

> *Many…reports in war are contradictory; even more are false, and most are uncertain….reports turn out to be lies, exaggerations, errors, and so on….*

3-4. The final impediment to mission accomplishment is the actions of friendly forces themselves. The specific manifestations are human error, information mismanagement, equipment limitations, and the "physics" of executing an action. These unanticipated manifestations compose what Clausewitz called the "friction" of war. Their effects on the C2 system and employed forces often cause deviations from the plan during execution. Figure 3-1 includes the influence of these effects in operations. Clausewitz characterized the effects as follows:

> *Everything in war is simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war…. Friction…makes the apparently easy so difficult.*

3-5. Non-linear interactions characterize control during operations. Extremely small influences can have large, unpredictable effects on the organization. Interactions among organizations and people—both within the chain of command and outside it—occur randomly among the various parts of the organization. The soldiers and organizations interact (to include the threats already mentioned) frequently, freely, and unpredictably. This makes control an open system, so the behavior of the organization cannot be isolated. The organization's members, rather than behaving mechanically like parts of a well-oiled machine, behave more organically, which further complicates control.

3-6. The commander, with the help of his staff, uses control to regulate forces and functions of subordinate and supporting units in military operations. The staff provides him its greatest support in providing control. The commander must actively participate in exercising control for it to be effective. Mission command provides a measure of self-regulation within operations.
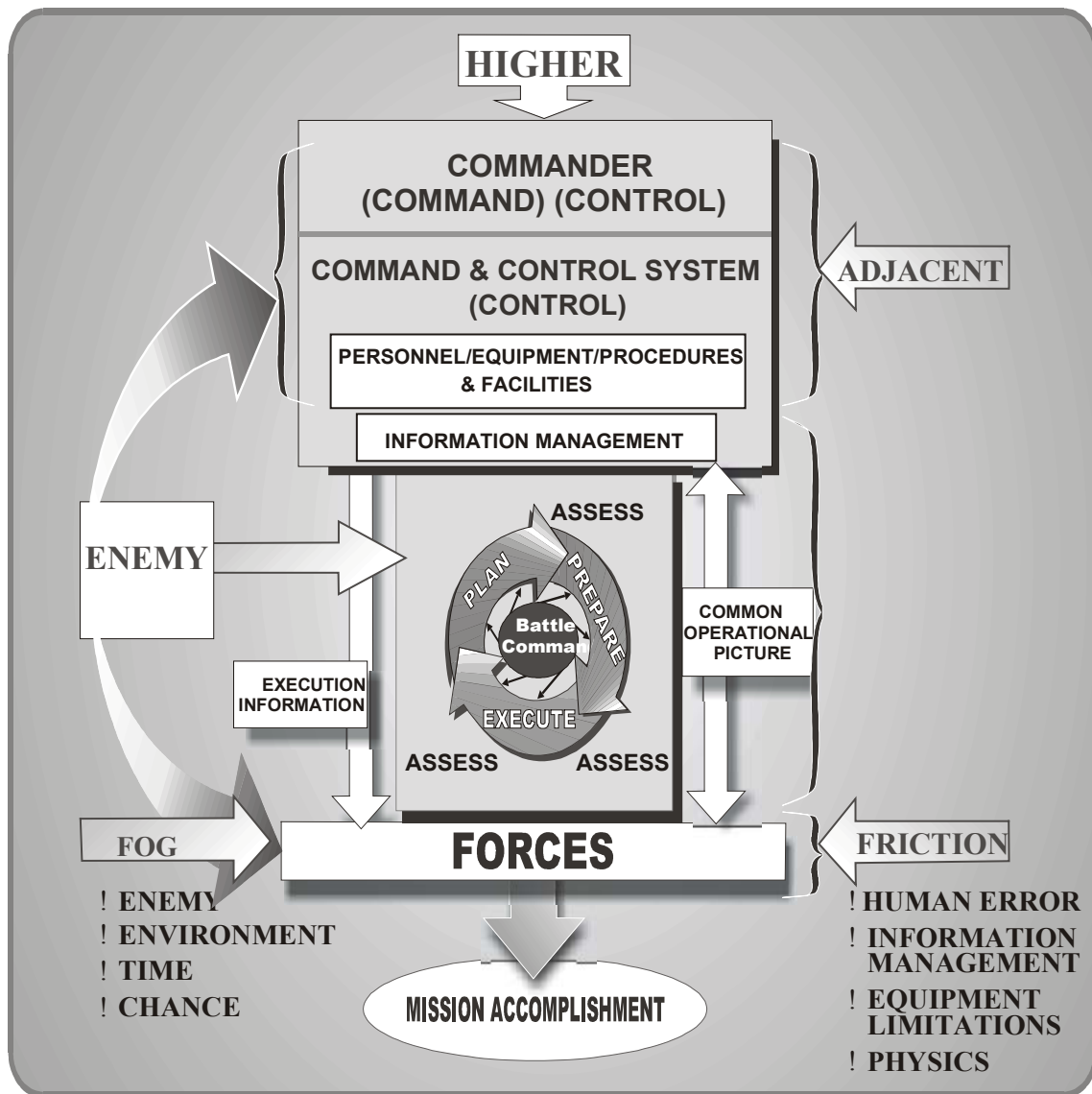
Figure 3-1. Control

3-7. In the broadest terms, control answers two fundamental questions:

- What is the actual situation compared with the desired end state?
- Are adjustments to the plan necessary to reconcile the situation with the desired end state?

3-8. The C2 system performs three basic functions to answer these questions. First, it supports the commander achieving situational understanding by using information management to create the COP and disseminate it throughout the organization. It does this by acquiring information on the factors of METT-TC. Second, it supports the commander's decision making process as he develops, analyzes, selects, and refines courses of action (COAs). He then executes decisions he has made—preparing and disseminating orders to sub

ordinate forces. Third, it allows the organization to adapt to change during planning, preparing for, and executing operations. These basic functions include such control activities as:

Support achieving situational understanding	Regulate forces and operating systems	Allow the organization to adapt to change
Determining and dynamically adjusting requirements.	Supporting the commander's decisionmaking process.	Forecasting change, in friendly, enemy, or environmental situations, and the meaning of that change.
Collecting, processing, displaying, storing and disseminating information.	Defining limits.	Identifying variance in performance from the commander's concept of operation.
Assessing the status and performance of subordinate units and the force.	Allocating means to requirements and tasks.	Reporting significant changes in the situation to the commander.
Anticipating opportunity or threats in execution, to include intelligence preparation of the battlefield, indications and warnings, and situation development.	Directing operations by preparing and communicating orders.	
	Acquiring means to accomplish the commander's intent.	
	Developing specific directives from general guidance from the decision maker.	

Figure 3-2. Functions of Control

3-9. The C2 system should allow the commander to—

- Operate freely by exercising C2 throughout his AO and lead from any critical point on the battlefield.
- Delegate authority to subordinate commanders and staff to allow decentralized execution of operations.
- Synchronize actions throughout his AO.
- Focus on critical actions instead of details.

3-10. Control includes functions normally associated with *management*, primarily when it concerns the efficient and effective allocation of resources. Management is inherent in C2, but lacks the extensive authority and responsibility in command. While management techniques may assist a commander in making decisions and leading, they are not sufficient to accomplish missions.

ELEMENTS OF CONTROL

3-11. Control allows the commander to disseminate his intent and execution information of his decisions and to adjust his operations to reflect changing reality and enemy actions. This allows the commander to modify his visuali

zation for either the current state, the end state, or the process of getting from the current state to the end state. Control can further identify times and points requiring new decisions during operations. The elements of control are—

- Information
- Communication
- Structure

Information

3-12. **Information** is the most important element of control. **It is the meaning assigned to data.** It also includes any form of description or representation from data to understanding that relates to military operations. Information gives structure and shape to the material world, thus allowing commanders and their staffs to give meaning to and gain understanding of the events and conditions in which they make decisions and conduct operations. In C2, intelligence is an element of relevant information. Appendix B discusses information.

3-13. Data and information from all echelons of command and shared among all users generate the COP. Although ideally the COP may be a single display, it may also consist of one or more displays and information in other forms from the staff using common data that combine to form the COP. By applying judgment to the COP, the commander can achieve situational understanding, which allows him to make decisions. However, there are many complexities in maintaining an accurate COP.

3-14. For example, delays in receiving information about the enemy as compared to that of the friendly forces and the many complexities of the terrain and weather and civil considerations cause friction within the COP. The staff also has to struggle with portraying meaning and the necessary level of detail within the COP without overloading the commander. The commander directs by disseminating execution information, typically as orders and plans, to implement his decision; he receives feedback from subordinates and supporting forces in the process. This bi- or omni-directional information flow creates a reciprocal influence between the commander and subordinate forces.

3-15. One important piece of information for a commander is whether his subordinates understand his intent. If the commander is assured that his subordinates understand his intent, he may require less-detailed information from them. If the subordinates do not understand his intent, his information requirements must be more intensive, and he will participate more in the C2 process. He can use training to see how subordinates interpret his intent to local situations.

Communication

3-16. Communication conveys information from one person or place to another (JP 1-02). Communication allows the organization to disseminate and share information from one person, element, or place to another. It links information to decisions and decisions to action. No decision in combat can be executed without clear communication to subordinates. Communication among the parts of an organization supports their coordinated action. The

communication that characterizes control is multi-directional, as shown in Figure 3-1. This is a critical step to achieve effective C2.

3-17. How the commander communicates contributes to or detracts from leading. Because military operations require collective efforts, effectively communicating information among participants becomes imperative. Communication is the means through which commanders exercise immediate, personal, and positive control over their forces. In general, intense, unconstrained communication—the free and unhindered sharing of meaningful information throughout the organization—characterizes effective communication.

3-18. A major purpose of communication lies in sharing images, particularly the commander's intent. It is essential for the commander to communicate his intent, whether verbally or with illustrations or analogies. General of the Army Omar Bradley understood that "Congress can make a general, but only communication can make a commander."

3-19. Communication has an importance far beyond exchanging information. Separate from the quality or meaning of information exchanged, communication strengthens bonds within an organization; it is an important device in building trust, cooperation, cohesion, and mutual understanding.

Structure

3-20. **Structure is a defined organization—establishing relationships among its elements—or procedure—establishing relationships among actions.** The commander establishes control with a defined organization and its relationships. This structure or organization is both internal (headquarters structure—CPs) and external (command and support relationships) among subordinate forces. The most basic organization in control is a hierarchy. In military terms, this relationship is between the commander and his staff and subordinate forces. Chapter 5 discusses the structure of C2.

3-21. Structure also determines interactions among the elements of the organization, whether units or individual people. The effects of these interactions affect collecting, disseminating, and processing information.

PRINCIPLES OF CONTROL

3-22. The principles of control govern how the commander and C2 system use the elements to carry out functions of control. Control permits the organization to adapt to change. Because of feedback, control is also a cyclic, continuous process, not a series of discrete actions. It is a process of dynamic, interactive cooperation. Control continues before, during, and after operations. The principles are:

- Allow maximum freedom of decision and action for subordinates.
- Create, maintain, and disseminate the COP.
- Use common doctrinal procedures, graphics, and terms.
- Provide for flexibility and adaptability.

Allow Maximum Freedom of Decision and Action for Subordinates

3-23. Commanders should impose minimum constraints on subordinates. They should exercise only the control necessary to provide subordinates sufficient guidance and resources to accomplish assigned tasks. This principle, however, includes exercising such control as necessary for proper but not perfect coordination.

3-24. This principle directly supports achieving mission command. Mission command relies on mission orders, sharing of situational understanding information, and flexible procedural control to allow subordinates freedom of action to exercise their initiative within the commander's intent.

3-25. In mission command, doctrine, established procedures, and the commander's intent should provide coordination implicitly. However, a need always exists for some control measures for essential coordination. The commander establishes and uses least-restrictive procedural control within his organization.

3-26. In most instances, immediate commanders have fullest access to information about their forces and the environment and the clearest understanding of their own situations. They are therefore better suited than higher commander to develop those situations. Even two or more subordinate commanders working together may be more effective and timely in solving a problem than the higher commander. This type of coordination involving direct coordination among subordinate commanders is critical for effective C2. The commander emphasizes this principle of control at every opportunity.

3-27. Overcontrol results when commanders establish excessive limits on the subordinates' freedom of action. The achievement of "massed effects," espoused by the Army's operations doctrine, can cause a commander to attempt to achieve such effects by detailed command methods, resulting in overcontrol. Overcontrol consists of two types: tactical overcontrol and excessive requests for information.

3-28. Tactical overcontrol consists of issuing excessively detailed orders initially or giving excessive direction during execution. Such overcontrol inhibits subordinates' exercise of initiative, as well as tires the commander by referring too many decisions to him. Tactical overcontrol also results from emphasis on procedure or process rather than on outcome, or on efficiency rather than effectiveness. The guiding principle is that minimum essential coordination achieves mission success.

3-29. Excessive requests for information divert subordinates from executing their operations. One cause of excessive requests may be the search for perfect information. Another stems from poor information management, discussed later in this chapter. Commanders must have information; yet no one can completely forecast all information requirements before operations begin. The commander or his staff must evaluate all requests for new or redundant information against the effects on subordinates' operations. These excessive requests create unnecessary stress or fatigue for the subordinate unit, causing it to ignore more requests for information and failing to respond to a true information need. This detracts from its own mission. Excessive requests for

information can also affect the requesting unit, because it must process the responses.

3-30. The following considerations temper the exercise of control to fulfill this principle:

- Any control measure places a limit or constraint on the subordinate commander, which the subordinate recognizes as necessary when it involves essential coordination of the actions of the force. Otherwise, the commander risks undermining the subordinate's (if not his entire organization's) initiative.
- The restraint on control also includes restraining excessive demands for information from subordinates.
- The commander gives his subordinates sufficient leeway for initiative while maintaining coordination and sufficient understanding of the situation to restore it in time, if necessary, or to exploit opportunity.

Create, Maintain, and Disseminate the Common Operational Picture

3-31. **The COP is an operational picture tailored to the user's requirements, based on common data and information shared by more than one command.** Relevant information provides the basis for constructing the COP. The COP facilitates collaborative planning and assists all echelons to achieve situational understanding. The COP provides the basis for achieving situational understanding that, in turn, allows the commander to make decisions. The commander applies judgment to the COP to achieve situational understanding that supports his decision making. Subordinates can use the COP in conjunction with the commander's intent to guide their exercise of disciplined initiative in mission command. Digital, analog, or mixed digital/analog forces can use the concept of the COP; each applies the concept differently to the resources available.

3-32. The commander achieves situational understanding when several factors interact. The judgment he uses in evaluating the COP comes from his experience, existing knowledge of friendly and enemy forces and the environment, and intuition. The process of combining these factors in using judgment is neither simple nor automatic. Since knowledge provided by the staff through analysis and evaluation in their input to the COP is a primary factor for the COP and situational understanding, it is also an integral part of battle command. The intelligence BOS (to include the intelligence, surveillance, and reconnaissance (ISR) integration of all sensors, units, and higher echelons) is a critical, integrated part of C2 (instead of intelligence support across the BOS). This relationship facilitates a more thorough construction of the COP, sharing knowledge, and achieving a more complete, timely, and comprehensive situational understanding. This concept of combining inputs to create a COP applies to both digital and analog CPs. The commander keeps his situational understanding an accurate reflection of the actual situation of the operation[S-USMA].

3-33. All command posts (CPs) maintain an *operational picture* (OP) based on information that comes into the CP. An OP is a single display of relevant information within a commander's area of interest. By collaborating and sharing RI, and tailoring it to their needs, separate echelons create a COP (FM 3-

0). The difference between an OP and a COP is that, in a digital environment, all CPs draw on a common set of RI available within a shared database to create that portion of the COP that shows what respective commanders want to know. In an analog environment, much of the creation of a COP is done manually, and it is harder to update, disseminate, or tailor dynamically to user requirements. Rapidly sharing RI among higher headquarters, subordinate, adjacent, supporting, and supported forces creates a COP throughout the force. In an analog environment, a CP is limited to that information it physically has on hand. Nevertheless, the concept of the COP still applies in an analog CP. The use of reproduced graphic overlays or gathering subordinates around a common map or graphic are all examples of the COP concept in an analog CP.

Using Common Doctrinal Procedures, Graphics, and Terms

3-34. Language used in communicating should be simple and clearly understood. An understanding of common doctrinal procedures, graphics, and terms contributes to simplicity and clarity, essential to mutual understanding. Using correct doctrinal procedures, graphics, and terms shortens the amount of explicit communication needed to convey or explain an order or plan. However, within stability operations and support operations, the staff may have to use or create nonstandard graphics or modify existing graphics to portray the environment and an adaptive enemy when standard graphics are unavailable or unsuitable.

3-35. This should not imply a submissive adherence to every aspect of doctrine in inappropriate situations. Rather, it means that commanders base an apparently non-doctrinal decision on an understanding at all levels of doctrinal requirements and limitations. Soldiers can understand a creative, but non-doctrinal, solution to a tactical problem when explained in already understood doctrinal terms and procedures.

Provide Flexibility and Adaptability

3-36. Control allows the organization to respond to change, whether due to enemy or friendly actions or situations. Control provides flexibility and adaptability, the ability to recognize and respond effectively to emerging conditions, and to correct for the effects of fog and friction on friendly operations. Control provides the information that allows the commander to base decisions and actions on the results of friendly and enemy actions, not on rigid adherence to the plan. Commanders build flexibility and adaptability into their plans.

3-37. Control supports flexibility and adaptability in two ways. First, it identifies the need to change the plan through either anticipating or forecasting possible enemy actions, or by identifying unexpected variances from the plan—as opportunities or threats. This occurs throughout the operations process. Second, it helps to generate and implement options to respond to these changes in a timely manner. Flexibility and adaptability reduce the enemy's available options while maintaining or expanding friendly options. Effective control provides for timely action before the enemy can achieve its purpose. Control allows the C2 system to guide modification of plans and actions as the situation and commander's situational understanding change.

3-38. To support the commander in fighting the enemy and not the plan, control should orient on information about emerging conditions. Control provides flexibility by—

- Allowing friendly forces to change their types and forms of operations, their task organization, or their plan.
- Generating information about options to respond to changing conditions.
- Communicating the commander's decisions quickly and accurately.
- Providing for rapid resynchronization of BOS when the plan changes during execution.
- Allowing collaborative planning to respond to the progress of operations.

SCIENCE OF CONTROL

3-39. Control, as contrasted with command, is more science than art. As such, control relies on objectivity, facts, empirical methods, and analysis, with emphasis on anticipation in the form of forecasting to perform the functions discussed earlier. Control lies within the functional scope of the staff. If there is no staff, the commander employs as much control as time permits at lower levels. The science of control lies in the following:

- Information management
- Communications
- Forms of control

INFORMATION MANAGEMENT

3-40. Information management is the provision of relevant information to the right person at the right time in a usable form to facilitate situational understanding and decision making. It uses procedures and information systems to collect, process, store, display, and disseminate information (FM 3-0). Information management is the scientific method in control that provides structure through which to communicate and transform information in decision making and to put decisions into action using two forms of control.

3-41. The commander can make no decision or act to implement it without information. With the amount of information available today and in the future, managing information and turning it into effective decisions and actions will be critical to success during operations. Since effective C2 depends on getting RI to the right person at the right time, information management is crucial to C2. Information management is essential to determining critical information, routing information rapidly and accurately, processing information to transform it into knowledge, and disseminating it in a timely manner. Commanders and staffs assess the effectiveness of information management by considering how information contributes to lessening the "fog of war."

3-42. Information management narrows the gap between information the commander requires and the information he has. All information that a command produces has one overriding purpose—to enable the commander to make timely decisions during the fog and friction of operations. All informa

tion must be relevant, and the staff must ensure it is accurate, timely, usable, complete, precise, and reliable.

3-43. The information the commander receives drives how he visualizes the operation. How collected information fits into the commander's visualization determines its value. In turn, the commander's visualization drives what information he seeks through commander's critical information requirements (CCIR). Staff members must understand the commander's intent and CCIR to supply his information needs.

3-44. Tactical operations produce large amounts of information. While much of this information is useful to others in the C2 system, it may not be relevant to the commander during decision making. Commanders and staffs who understand this can avoid potential information overload by establishing criteria for what information to present to the commander. Guidance on these criteria must come from the commander himself.

3-45. Information management should facilitate the rapid flow of information in all directions. As technical means for distributing information improve, information management should allow users to discriminate as to the relevance of information in order to prevent information overload. It should enhance the ability of commanders to communicate their intent and concept with clarity and speed. Information management must facilitate communications vertically within the chain of command and horizontally among subordinate, adjacent, supporting, and supported units. Redundancy in transmission paths should safeguard against disruption and battle damage. However, which transmission path information follows is less important than whether it reaches the right destination at the right time in a usable format. The ability of the technical systems to provide RI to commanders and other leaders in a timely manner ultimately depends on the continuous updating of command guidance concerning what is most important for decision making.

3-46. The commander bases his information management guidance on the following factors:
- Degree of willingness to cope with uncertainty, such as what is plausible to find out.
- Information requirements for decisions, such as what he knows and needs to know.
- Ability to describe his intent and situational understanding to subordinates and others.
- Use of mission orders to task subordinate commanders.
- Use of liaison officers and informal communications networks.

3-47. Information management is a component of the C2 system. It consists of two elements: information systems (INFOSYS) and RI. The following section discusses information management in C2; other BOS will develop RI through their specific information management cycles. Intelligence, for example, uses the intelligence cycle to provide information management within the intelligence BOS.

Relevant Information

3-48. RI is all information of importance to commanders and staffs in the exercise of C2 (FM 3-0). It answers questions that the commander and staff deem relevant to exercise C2. Information becomes relevant if it supports exercising C2 for a mission, and if it is accurate, timely, usable, complete, precise, and reliable. RI provides the basis for creating and maintaining the COP and the substance of execution information. It is the basis for achieving situational understanding. Appendix B elaborates on RI.

3-49. Situational understanding (SU) is the product of applying analysis and judgment to the COP to determine the relationships among the factors of METT-TC (FM 3-0). It facilitates decision making by identifying opportunities for mission accomplishment, threats to mission accomplishment and the force, and gaps in information.

3-50. At the same time the commander uses his situational understanding for C2, he tries to affect the situational understanding of the enemy (limiting its quantity or quality) and tries to influence the perceptions and actions of others (public or private organizations that influence the success of his operation). These considerations directly relate to information operations, as discussed in FM 3-13.

3-51. The requirement for information must be command-driven. Commanders must not request too much information, or the staff's chances of obtaining the RI decrease. Similarly, the staff should avoid collecting, analyzing, and disseminating routine information ahead of priority information requirements. Routine or irrelevant details may conceal the critical information and slow the C2 system. The quest for information—when too time-consuming— places an unreasonable burden on sources of information. At worst, it corrupts the trust required in mission command. A subordinate who worries over every detail rarely has the resources or desire to take initiative.

Information Management Activities

3-52. IM consists of five activities: collecting, processing, storing, displaying, and disseminating information. In practice the different activities overlap, effectively complementing one another within the C2 system.

3-53. **Collecting. Collecting is the continuous acquisition of RI by any means, including direct observation, other organic resources, or other official, unofficial, or public sources from the information environment**. The commander establishes the priorities for collecting based on the CCIR. He continuously revises these requirements during the operations process as the situation changes. Collecting takes two basic forms: information push and information pull.

3-54. An *information-push* system collects information by pushing it from the source to the user either as the information becomes available or according to a schedule. The advantages of information push are that commanders do not need to request the information, except initially, and the information arrives on a predictable schedule in a timely fashion. This system is best for managing routine reports, including information that is not time sensitive. A properly designed information-push system alleviates the problem of distracting

subordinate units from their operations with excessive requests for information.

3-55. An information-push system does not work well in obtaining information to meet unforeseen information needs, especially critical time-sensitive information. While an information-push system may push critical information to those who need it, it does so only if the commander dynamically revises and widely distributes his CCIR. The difficulty of fully anticipating the commander's needs in an information-push system can lead to information overload by attempting to deliver all possible information.

3-56. In an *information-pull* system, the user generates all information requirements, and the source provides information in response. An information-pull system does not anticipate information needs, but reacts to a demand for information. If the information is readily available, the source fills the demand quickly and efficiently. The common database can serve this system by allowing authorized users to query it for information and receive it in their requested format.

3-57. If the information is not readily available, the demand triggers a "demand cascade" as the requirement filters through the chain of command until it reaches the appropriate level for collecting data. This takes time and burdens lower echelons, especially in a centralized C2 system in which all information passes to the senior echelons. This demand cascade generates information overload by requesting unnecessary quantities of information or data. To avoid demand cascade, commanders should keep some dedicated collection assets who answer directly to them, such as the directed telescopes, discussed later in the chapter.

3-58. An information-pull system can help focus scarce resources on critical tasks the commander identifies. It can deliver information specifically tailored to the commander's information needs and only produce information he requests. These characteristics can be both strengths and weaknesses. They can be strengths because information flow is tailored to identified requirements. However, they can be weaknesses because there are often information requirements that the commander has not stated or does not identify, and those requirements go unsatisfied in information pull. One definite disadvantage of information pull is the cost in time and timeliness since the search for information may not begin until the commander identifies an information need. An information-pull system serves to provide exceptional information, and commanders should reserve using information-pull collection for exceptional cases where the need outweighs the costs. Although a strict pull system generally requires more time to collect and process information, a near real-time ISR capability should support both pull and push capabilities. Nevertheless, a commander must have the capability in his C2 system.

3-59. The C2 system should combine the best characteristics of information-push and information-pull collection. Information push is the most efficient way to provide information needed routinely. The C2 system should anticipate commanders' needs and push routine information to an easily accessible local database. Commanders can then use information pull to obtain only the information they need from that database. This solution avoids the danger of information overload associated with information-push collection. It also cir

cumvents some of the delays normally associated with information-pull collection.

3-60. Commanders will likely not recognize their information need initially, so the C2 system must ensure that truly critical, time-sensitive information is pushed directly to them without delay. This might mean skipping intermediate echelons of command, although in most cases all echelons should receive such information simultaneously. Echelon skipping does not mean, however, that intermediate echelons remain uninformed. After passing critical information directly between the concerned echelons, both echelons should inform intermediate echelons through normal channels.

3-61. **Disseminating. Disseminating is communicating RI of any kind from one person or place to another in a usable form by any means to improve understanding or to initiate or govern action.** It takes two basic forms: broadcast or point-to-point dissemination. Information management activities should exhibit a judicious combination of broadcast and point-to-point forms of dissemination. Regardless of the form, the personnel in C2 systems need to disseminate combat information, which locates forces or targets, immediately.

3-62. First, senders may *broadcast* information simultaneously to a broad audience—anyone with access to the information network. The great advantage of broadcast is that it gets information to the widest audience in the shortest amount of time. If the information is generic, this method may be efficient. Broadcasting also transmits information to the entire audience. However, since the information broadcasts to a wide audience with varying information requirements, the information cannot be tailored to any specific commander's needs. Perhaps the greatest drawback of broadcast transmission is that undisciplined use of this method can quickly lead to information overload.

3-63. In *point-to-point* dissemination, information goes to a specific user or users. Information then passes sequentially from one user to the next. Point-to-point dissemination has two basic advantages. First, the C2 system can tailor information to meet the specific needs of each recipient. Second, point-to-point dissemination has built-in control mechanisms that broadcast transmission lacks. Each node in the sequence can filter and integrate information as appropriate before passing it on—lessening the risk of information overload and tailoring information to the needs of the next recipient. The major disadvantages of point-to-point dissemination are that information reaches a broad audience slowly, and the chances of distortion increase through each node of dissemination.

3-64. **Processing. Processing (except in intelligence doctrine) is raising the meaning of information from data to knowledge, which supports situational understanding.** (Processing in intelligence is, "the conversion of collected information into a suitable form that can be readily used to produce intelligence.") Processing adds meaning to relevant information through progressively higher-level and complex cognitive methods to create a COP. Among other aspects it includes lower-level mechanical and mechanistic methods such as organizing, collating, plotting, and arranging data and information. However, effective processing requires analysis and evaluation

(higher-level cognitive methods) for it to become knowledge and to support situational understanding. Processing depends primarily on well-trained and adaptive analysts to provide insight. Decision makers apply judgment to knowledge to achieve understanding, which enables informed decisions with less than perfect data. Understanding generates action.
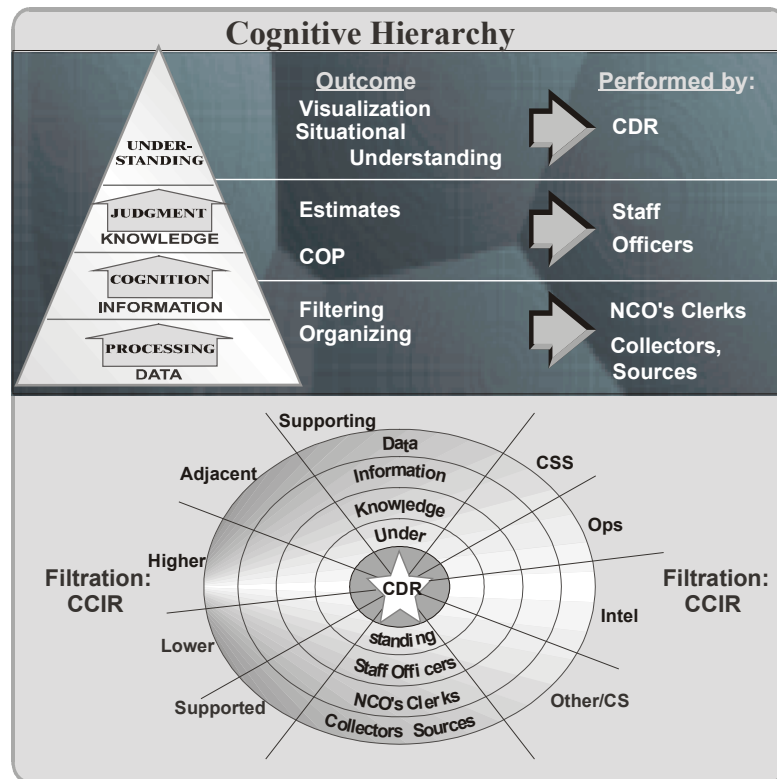
Figure 3-3. Processing Information

3-65. Figure 3-3 graphically displays information processing. The top half describes the use of processing—adding meaning to information and raising it on the cognitive hierarchy as described in Appendix B. It relates the levels of meaning to the processes used to add that meaning to the hierarchy and the expected outcome at each level. Finally, it relates processing at each level to the commander or the soldiers in the C2 system. The lower half of the figure shows how transforming information supports the commander.

3-66. Incoming data are not information to a commander until they have meaning added. In this process, the staff is a major factor at higher echelons. At lower echelons without a staff, successful commanders explicitly or implicitly raise the meaning of information they receive personally. An example of a lower commander processing information himself is a platoon leader collecting *data* by observing enemy actions to his front. He reports this observation[S-USMA] to his higher commander and processes the data into *information* in the form of graphics displaying those actions on his map, also taking into account friendly actions. He takes this information, applies existing knowledge of enemy operations to his observations, and analyzes their meaning to anticipate possible enemy actions. He then evaluates the possible

effects of enemy actions on his and the friendly unit's mission, as well as the effects of his unit's actions on the enemy. This raises the information about the enemy to *knowledge*. Finally, using his judgment to *understand* the situation, he decides if he needs to do anything to counter the enemy's actions.

3-67. An important processing tool is **collaboration**, which involves real-time or near -real-time audio and visual exchanges, that may include video teleconferences and whiteboarding. Collaboration can serve to discuss the COP, update information requirements, generate knowledge, improve visualization, share situational understanding, and improve decision making. Collaboration further disseminates knowledge and improves situational understanding both horizontally and vertically.

3-68. The staff (or the commander personally if he does not have a staff) must filter raw data and information to identify RI based on specified criteria (timely, accurate, usable, complete, precise and related to overall information requirements) to create the COP. Processing must filter, fuse, and prioritize information. Filtering means assessing the value of information and culling what is not pertinent or important. Fusing integrates information into an easily usable form at an appropriate level of detail, and prioritizing expedites the flow of information by indicating and displaying the relative importance of the RI. The prime example of this prioritization is CCIR. This demands vision from the commander and understanding from subordinates of his intent to recognize critical information.

3-69. This applies especially to exceptional information. Identifying exceptional information is particularly important in discovering something unanticipated about an adversary. This should allow the commander to take advantage of an unexpected opportunity to defeat the enemy or to avoid a surprise that could lead to a friendly defeat.

3-70. As the commander applies his education, experience, intuition, and judgment, he transforms knowledge into situational understanding. This understanding plus his visualization of the battlespace leads to clear intent, comprehensive command guidance, fast decisions, and better C2 during execution.

3-71. **Displaying**. **Displaying is representing RI in a usable, easily understood audio or visual form tailored to the needs of the user that conveys the COP for decision making and exercising C2 functions.** The displays should be meaningful images, rather than simply masses of data. The staff uses standard formats to organize the display and to allow the viewer or reader to know where to look for information. There are three ways to present information: written reports, verbal narrative reports, and graphic displays. Standard formats ensure that all RI is included and assist the user in finding needed information. Displays facilitate communications because they do not require lengthy instructions, thereby shortening communications. Properly executed, displays aid communications and understanding by using doctrinal terms, graphical conventions, and formats for presenting information to convey complex concepts.

3-72. Graphic displays visually represent current or future operational information. When possible, commanders and staffs graphically portray quanti

fiable information, using standard formats with automated or manual means. Graphic information should—

- Display symbols, graphics, and terminology consistent with FM 1-02.
- Display relevant information only.
- Display information clearly and understandably.
- Display information accurately, reliably, and in a timely manner.
- Change promptly and easily as the information is updated.
- Allow rapid distribution to higher, lower, and adjacent units.

3-73. This activity is more than just the communication and display of data and information. It is the quality of the presentation of information that facilitates the assimilation and development of knowledge. A good display should allow a commander to look across the area of interest in space and time and rapidly focus on decisive points, identifying opportunities, threats, or gaps in information. Good displays should also allow the commander to communicate directions to subordinates in a manner that facilitates understanding of the desired end state.

3-74. **Storing. Storing retains RI in any form, usually for orderly, timely retrieval and documentation, until it is needed for exercising C2.** Information is stored because not all information collected or processed can be displayed at the same time, nor is it relevant at all times. The DA Form 1594 Staff Journal represents a primitive storage means. It retains information for future use or analysis of past outcomes, but it is difficult to rapidly re-sort, reorder, and analyze data in this form.

3-75. Common databases provide powerful tools for transforming data into information and knowledge required for military decisions. By storing, ordering, and structuring data in a database based on data models that reflect the needs of military decisions, a variety of software applications use and share this data for multiple purposes. The database provides a bridge allowing different systems with different purposes to work together or interoperate. For example, data on the location and identification of friendly units when processed and compared with other data, can support achieving SU and assist in clearing artillery fire missions. Through the database, multiple applications can simultaneously use the same data for different purposes to support multiple decisions horizontally and vertically. Using a database allows software applications to permit operators and analysts to sort, store, organize, and query data by unit identification, geographic location, resource status, or consumption.

COMMUNICATIONS

3-76. Communications is any method or means of conveying information of any kind from one person or place to another to improve understanding (JP 1-02). The traditional view of communications within military organizations is that subordinates supply the commander with information about the situation, and the commander, in turn, supplies the subordinate with decisions and instructions. This linear form of communication may be consistent with detailed command but not with mission command. Mission command requires interactive communications characterized by continuous feedback. Feedback

provides the means to improve and confirm mutual understanding—and this applies to lateral as well as vertical communications.

3-77. Communications is key for linking the commander to all battlefield operating systems. Communications shortfalls that have existed in the past, for example, the communications shortfall for CSS at brigade and below, must be corrected so that commanders have unobstructed and full information, which supports achieving situational understanding.

3-78. Humans communicate not only with the words but also by body language, facial expressions, and gestures in addition to tone of voice and inflection. In fact, evidence suggests that in face-to-face conversation, humans actually communicate most by non-verbal means, both vocal (such as tone or inflection) and nonvocal (such as gestures, body language, or facial expressions), and least by the actual words they use. With the advent of teleconferencing and other collaboration means, commanders can achieve the benefits of face-to-face communication without taking time to attend a meeting at a distant location. In peacetime, the temptation is to rely too much on written methods of communication, which can be refined over time. Although modern information technology and communications systems facilitate this approach, written papers, briefs, and directives may not have the same impact as oral orders, consultations, and briefings. *Modern word processors provide the ability to produce vast amounts of writing, but the C2 system should avoid this tyranny.* Just because the capability exists does not mean the C2 system should use it in this fashion; quality rather than quantity best serves communications in command.

3-79. People communicate implicitly—they achieve mutual understanding and cooperation with a minimal amount of information transmitted—if they have formed a familiarity of shared experiences and a common outlook. Implicit communication is a function of the individuals' personal, military, cultural, and national expectations; it consists of personal and organizational styles, habits, experiences, beliefs, and values. Implicit communication takes place through internalizing explicitly stated standards, norms, or values and the members sharing them. It also takes place through the socialization of individuals' styles, habits, experiences, beliefs, and values into the organization's styles, habits, experiences, beliefs, and values.

3-80. Through implicit communication, a key phrase or a slight gesture can sometimes communicate more than a detailed order. Since such implicit communication reduces the time spent drafting and relaying messages, it reduces the problems of delay typically associated with information flow. Implicit communication helps maximize information content while minimizing the actual flow of data, thereby making the organization less vulnerable to disruptions in communications. While conciseness is a virtue, so is a certain amount of redundancy. Used within reason, redundancy of communication can improve clarity of meaning and mitigate disruptions. Effective communications consequently exhibit a balance between conciseness and redundancy. Implicit understanding reduces the need for redundancy.

3-81. Since each person who handles information changes it, important information should pass directly between principal users. This eliminates intermediaries, such as equipment operators. Whenever possible, the com

mander and staff should communicate face-to-face, since humans communicate by how and what they say and do. This does not mean they do not keep records of communication. Permanent records are important as a means of affirming understanding for later study and critique, and for assuring understanding over a period of time where memory may distort or even forget elements of the information required or passed.

Channels

3-82. Information normally moves throughout the command along specific channels or transmission paths. Structure, in the form of command relationships, establishes these channels of communication. Channels help streamline information dissemination by ensuring the right information passes in a timely manner to the right people. The channels disseminate information both to build the COP and as execution information. Commanders and their staffs communicate through three channels—command, staff, and technical:

- Command channels are direct chain-of-command transmission paths that commanders, or authorized staff officers, use for command-related activities.
- Staff channels are staff-to-staff transmission paths between headquarters used for control-related activities. They transmit planning information, controlling instructions, and other information to support C2. The intelligence and admin-log net are examples of staff channels.
- Technical channels are the transmission paths between two technically similar units or offices within a command that perform a technical function requiring special expertise. Technical channels are typically used to control performance of technical functions. They are not used for conducting operations or supporting another unit's mission. For example, the staff can pass a deception plan up and down the technical channel before it is approved.

3-83. Cross-talk between commanders of major subordinate commands (MSCs) can transfer information and lead to decision making without the commander becoming involved, except to affirm, either positively or through silence, the decisions or agreements of his subordinates. However, the commander must train subordinates to cross-talk, so they can quickly and competently exchange information, reach decisions, and open up the command net for others.

Crosstalk in the Desert: VII Corps During Operation DESERT SHIELD

On the morning of 17 January 1991, the day after the start of the air campaign, the VII Corps commander, LTG Franks, was with the 1st Infantry Division as it honed tank and Bradley gunnery skills on the 1st Infantry's training range in the desert of Saudi Arabia. While there, he received a spot report from BG Landry, corps chief of staff, over FM radio: "55 Iraqi tanks have crossed the Kuwaiti Border, heading southwest toward Hafir Al Batin and are engaging Egyptian coalition forces in what may be the beginnings of an Iraqi preemptive strike."

Within seconds, COL Hitt, commander of the corps' 11th Aviation Brigade, entered the net indicating that he had monitored the report and alerted two Apache Battalions that could respond in 30 minutes if necessary. At the same time, COL Holder, commander of the 2nd Armored Cavalry Regiment,, the corps' closest unit to the reported enemy, called to notify the commander that he had issued orders for 1st Squadron to send a unit forward to recon and make contact with the enemy. Those were the immediate and correct actions taken by commanders as a result of eavesdropping on the command net, and having the confidence to act—confidence developed through training, teamwork, and trust among the key players of the VII Corps team.

Feedback

3-84. Feedback is information about the unfolding situation—flowing continuously to the commander—that allows him to compare the actual situation against expectations, decide whether or not to adjust operations, and direct actions. The commander's or staff's view of a situation is based on the interpretation of information received. New information that conflicts with the expectations established during planning requires the commander and staff to validate the view or revise it to reflect reality. Feedback information can come from subordinates, higher headquarters, or adjacent, supporting, and supported forces, before, during, or after operations. For feedback to be effective, the C2 system must process it into understanding, which indicates the difference between the goals and the situation that exists. Feedback allows the commander to exploit fleeting opportunities, respond to developing situations, modify concepts, or reallocate resources.

3-85. While we usually think of feedback as flowing from lower to higher in the form of situational understanding information, it should also flow from

higher to lower, as shown in Figures 1-1 and 3-1. Normally this information from higher to lower consists of execution information to adjust the subordinates' resources, concepts, or missions. It should also include the COP. A reciprocal influence exists between the superior commander and his subordinate forces because of this multidirectional information flow. Logically, with more digital capabilities, information such as intent, knowledge, SU, feedback, and mission adjustments should flow horizontally, as well as vertically.

FORMS OF CONTROL

3-86. Control takes two basic forms—procedural and positive. Military operations require both forms to offset each other's inherent weaknesses. They can complement each other and enhance military operations. The commander must establish the balance for each situation. A specific method of positive control, the directed telescope, is discussed separately because of its importance to the commander directly and personally. FM 3-52 discusses applying control to the airspace over the AO.

Procedural Control

3-87. **Procedural control is a technique of regulating forces and other BOS that relies on a combination of orders, regulations, policies, doctrine, and tactics, techniques, and procedures (TTP).** This form is most effective in static operations or in the following situations:

- A commander must make a decision concerning future events.
- The situation is clear and ordinary.
- Task identification is easy and reliably made.
- Accomplishing the task is easy to understand and conforms to prescribed actions.

3-88. Procedural control is less effective in generating correct actions for unusual contingencies. Moreover, if applied too prescriptively it can be inflexible and restrictive, stifling initiative. Intelligent use of procedural control supports mission command by allowing the commander to initiate and direct the operation with minimum intervention of subordinate units. It also allows him to focus on actions at decisive points during operations. Examples of procedural controls include unit SOP, the commander's intent, recurring reports, the definitions of terms in orders and reports, and the meaning of graphics on an overlay.

3-89. Procedural control frees the commander from having to make all the decisions himself. It can provide standard ways of accomplishing tasks or functions. Well-thought-out procedural controls also provide standardization in routine matters, allowing better integration and synchronization of forces. With routine matters covered by procedural controls, commanders can focus their energies on matters that require creative thought.

3-90. **Doctrine and TTP.** Doctrine and its associated TTP are procedural controls that provide, in terms of existing capabilities, a common approach on how to conduct operations among all Army leaders. By their nature, they govern process rather than product or outcome. Doctrine is more flexible as it deals with the fundamental principles that guide military actions. Doctrine-based TTP structure the way the Army solves problems or implements deci

sions. It stems from time-tested theories and principles but is adaptable in application. Doctrine contains a common language that enables all other methods of procedural and positive control.

3-91. Tactics are the arrangement of forces and capabilities on the battlefield. Techniques are general and detailed methods (such as battle drills or crew drills) troops and commanders use to perform assigned missions and functions, specifically, the methods of using equipment and personnel. Procedures are standard and detailed courses of action that describe how to perform recurring, low-level tasks. Collectively, they are known as TTP. They control more directly than doctrine, but doctrine would control actions in a given situation in a conflict with TTP.

3-92. **Control Measures.** Control measures, such as graphics on an operations overlay, help the commander establish procedural control. The type and extent of control measures are situation-dependent, although control measures have very specific, standing meanings. The commander tailors control measures in consonance with the higher commander's intent to the mission, terrain, and amount of independent action or flexibility he chooses to allow his subordinates. Each measure should contribute to the mission by orchestrating combat power or minimizing exposure to fratricide. To effectively employ control measures, commanders and staffs must completely understand the purpose and ramifications of using each control measure and the limitations imposed on subordinates' freedom of action and initiative.

3-93. Normally, the commander does not include control measures that restrict planning and routine action, for they impede freedom of action by subordinates. In situations where a commander must limit subordinates' freedom of action, he specifies graphic control measures and constraints in the OPORD. *For successful mission command, the commander should always use only the minimum essential control measures.*

3-94. The most important control measure is the AO assigned to a unit by its higher headquarters. The AO may, in its broadest interpretation, give the commander full freedom to conduct operations within the boundaries of the AO. Those boundaries also act as constraints and limit the commander by preventing him from creating uncoordinated effects outside the boundaries.

Positive Control

3-95. **Positive control is a technique of regulating forces and other BOS that relies on commanders and leaders actively assessing, deciding, and directing forces within their AO.** Commanders use positive control to accomplish or direct complex or vague tasks. However, overreliance on it tends to overload leaders with information (or requests for information); increase their fatigue (as they attempt to decide too much or be in too many places); and cause subordinates to rely on commanders to make all-important decisions. It is most useful in dynamic operations and in the following situations:

- The occurrences of forecasted events require a decision to implement one of several solutions.
- The situation is dynamic.
- Task identification by individual subordinates is difficult.

- Task accomplishment is complex; implementing actions are multifaceted; and several sets of solutions are possible, each explicitly described and involving multiple means.

3-96. Examples of positive control include prescribing the date, time, and location for an event or activity by one or more subordinate elements, altering the resources, concept, or objectives of an operation, or ordering execution of a specific contingency plan.

3-97. **Plans and Orders.** Plans and orders are written or oral communications that direct conducting and synchronizing action. They represent the commander's visualization in a specific area for a specific event. They may be issued in whole or in part to subordinate forces for planning or executing. The only difference between a plan and an order is that the force may or may not execute all or part of a plan at some future or unspecified date, while an order's execution (positive control) is always specified, if not immediate. Although plans depict specific conditions or assumptions, they are not static. A commander can change, refine, and update them from continuing estimates and studies. A subordinate may use his commander's plans as a guide to action in the absence of orders about an event within the space or time covered by a plan. There are many types of plans and orders listed in FM 5-0; each type is used for a specific purpose in relation to the echelon of command.

> "...avoid taking 'firm control' or a 'tight rein' over the battle...these measures are likely to hold back the offensive during a penetration or pursuit and thus damage their chances of success."
>
> Marshal of the Soviet Union, Mikhail N. Tukhachevskiy
> Paraphrased from Richard Simpkin, *Deep Battle*

3-98. In mission command, the goal is to direct with mission orders, defined in Chapter 1. Under this concept, such orders should enable subordinates to understand the situation, their commander's intent and concept of operations, and their own mission; the "how" of mission accomplishment for tasks assigned to subordinates is left to subordinate commanders. This provides unity of effort to guide initiative by subordinate commanders in planning and executing their own missions. Mission command stresses that higher commanders state only what is required of subordinates, rather than how to achieve it.

3-99. In practice, no commander relies solely on mission orders. The type of control he uses depends on the nature of the operation or task, the environment, the nature and capabilities of the enemy, and—most important—the qualities of his people: in short, METT-TC. Detailed orders may be appropriate in performing precise, specific tasks of a procedural nature when the task is not well known, or when time is not an issue.

3-100. Mission orders are preferred for mission command. Control provides the commander sufficient information and situational understanding so he knows when he must assert direct control over a subordinate or a situation. Mission orders allow the commander and his subordinates to adapt to

changing situations, are more responsive when time is critical, and are less vulnerable to disruption than detailed orders. Mission orders—the more ambitious form of control—demand more of leaders at all levels.

3-101. **Liaison.** Appendix E discusses liaison. Liaison enables the COP and execution information to pass from the sending headquarters to the receiving headquarters and vice versa. By virtue of the information-passing function, liaison officers and detachments serve control well. In addition to passing information, liaison personnel can add meaning and context to information received at their supported headquarters as well as at their supporting headquarters. Liaison personnel can also expedite passage of critical or exceptional information.

3-102. **Staff Visits.** Staff visits are not practiced as widely as they once were. However, in addition to assisting the unit visited, staff visits can give the sending headquarters valuable information about the view of operations at the headquarters visited. General Patton believed these visits were valuable and required his staff officers to visit forward units once a week. Staff visits may or may not be by invitation from the visited headquarters, and they may be announced or unannounced. Staff visits should do no harm in the headquarters visited; their visit should not upset the visited headquarters from conducting operations, and the visitors should not require special billeting or resources from the visited headquarters' soldiers.

Directed Telescope

3-103. One historical method of positive control is the **directed telescope—using a dedicated information collector—a trusted and like-minded subordinate—to observe selected events or units and report directly to the commander.** The directed telescope uses a dedicated information collector—a trusted and like-minded subordinate—to observe selected events or units and report directly to the commander. They often skip echelons when collecting and reporting. The directed telescope reports information on the factors of METT-TC in a less-structured format than normal communication but tailors it to the commander's needs. If the commander briefs and trains them before their mission, directed telescopes are more effective, but they may also be sent ad hoc. They are not always specific people. In his pursuit across France in August 1944, Patton used his Third Army's Armored Cavalry Group elements as directed telescopes. Often he had information on his army's lead elements before his division commanders. Unlike the liaison officer, the directed telescope skips echelons on assignment, does not have a standing relationship or assignment to a single headquarters, and reports directly to his commander.

3-104. Directed telescopes should augment regular reporting chains to avoid burdening lower echelons with additional information gathering. They can validate information generated through regular channels, or obtain critical information more rapidly than through regular channels. It is important that the directed telescope not interfere (or be perceived as interfering) with the normal functioning of the chain of command. The perception of spying or intruding on the province of the subordinate commanders can damage the vital trust between senior and subordinate so essential to mission command.

3-105. Directed telescopes must have their commander's authority for their mission and actions. There is no set rule for their authority, but two factors govern the level. First is the experience, training, and personality of the directed telescope. Second is the sending commander's leadership style. Directed telescopes must also have means to communicate with their commander or headquarters to allow them to transmit their information in a timely fashion. Finally, directed telescopes may pass their information to the local commander as a courtesy, but this is not mandatory.

3-106. Directed telescopes remain a valid method even with the advent of modern INFOSYS, although possibly with reduced frequency of employment. First, they provide commanders an informal, personal method to seek or clarify information, which helps their decision making process. Second, INFOSYS cannot provide the intangible information and the context of tangible information that truly inform the commander. Intangible information, such as morale and cohesiveness, is as important as the tangible information provided by directed telescopes. Above all, the tangible information they report includes the context of the information, which context may be more important to the commander than the substance. Third, the increasing use of ad-hoc organizations with military and nonmilitary as well as multinational organizations requires a method that overcomes the technology differences between the US Army and those forces and organizations.

HISTORICAL VIGNETTE

3-107. In the campaign of 1805 against a coalition that included the British, Austrian and Russian empires, Napoleon Bonaparte defeated numerically superior forces and ended the campaign in the battle of Austerlitz. The role of control in this victory contributed to his situational understanding, to regulating his forces' execution within his intent, and to allowing his forces to adapt to change with effective and timely actions in the battle. The timeliness of his decisions and his forces' actions rendered his enemies' reactions progressively more irrelevant as the battle went on, contributing to a victory that Napoleon always regarded as his finest and that history has considered a masterpiece of the military art.

Control in Command and Control: The Battle of Austerlitz
(2 December 1805)

Napoleon's Grande Armee of 1805 had spent two years training along the coast of the English Channel for an invasion of England. The formation of the Third Coalition led him to move with that army on 3 September 1805 against the first allied force that presented itself, before the rest of the coalition forces could join the campaign. He marched east with 200,000 men, defeated an Austrian army at Ulm in Bavaria by 20 October 1805, and pursued an approaching Russian army down the Danube toward Vienna. By 23 November, he halted his pursuit northeast of Vienna, 700 miles from the Channel coast.

The Russian army had joined with another Austrian army to form a force that numbered 85,000 to Napoleon's 53,000. Napoleon decided to entice the Russo-Austrian force to attack him before others could reinforce it. He displayed his weakness in numbers, which he let the Russo-Austrian commanders see, and withdrew his main body from key terrain in the area he had selected for battle near the village of Austerlitz. The allied army occu

pied that terrain on 30 November and prepared for battle. Napoleon had two corps moving to reinforce his main body to 73,000 before the battle: one joined him on 1 December; the other, from Vienna with 80 miles to march in 50 hours, would not arrive until the day of the battle.

Napoleon planned to show weakness on his right flank, encouraging the allied army to attack there, while holding on his left flank and attacking in the allied center where the allies had weakened themselves to carry out the attack on his right. With the forces attacking in the center, he could either roll up the allied forces attacking his left or, more decisively, envelop the forces attacking his right. Key to this was the timely (for him), unexpected (for the allies) arrival of the corps from Vienna to reinforce his right as the attack mounted in force. The evening of 1 December, Marshal Davout, the commander of that corps, arrived at Napoleon's headquarters with information that his lead division with a cavalry division, 6,600 men in all, would arrive to reinforce the French right, held by a single division, the next morning.

The allied attack against Napoleon's right began at 0600 on 2 December 1805 and had intensified by 0700. An allied attack against his left also threatened but had not yet commenced. Davout's lead forces reinforced the French right by 0700, and the fight there continued for the next 2 hours. The French forces there of 10,600 occupied an allied force of nearly 50,000. At his command post, Napoleon by 0800 could directly observe the majority of the allied force on the move against his right, uncovering the key terrain, the Pratzen Heights, that he had given up to entice the allied decision to give battle. He also received reports by 0830 about the tenacious, successful fight of his right and that his left was still secure. A semaphore station at his CP and relay stations aided him in sending and receiving messages by flag signals.

Hidden from enemy view but within striking distance of the key terrain and denuded enemy center were two divisions, 16,000 men and 16 guns, under command of "the finest maneuverer in Europe," Marshal Soult. Through the initial fight, he chafed to commence his attack, but Napoleon restrained him. At 0845, Napoleon turned to Soult and asked, "How long will it take you to move your divisions to the top of Pratzen Heights?" "Less than 20 minutes, sire," Soult answered. "Very well, we'll wait another quarter of an hour," decided Napoleon. By then, Napoleon knew that the allied forces had begun attacking his left. At 0900, Napoleon turned to Soult and directed him to attack: "One sharp blow and the war's over." By 0930, the two French divisions attained the Pratzen Heights and were well on the way to securing it. The French left now also attacked the allied right with coordinated infantry and cavalry actions under Marshals Lannes and Murat. By noon, this French shaping operation drove the allied right back 4 miles, isolating it from supporting the decisive operation on the Pratzen. Stationed in the center, Napoleon remained informed of events on both flanks but did not direct subordinate actions.

Soult's assault of the Pratzen only began the struggle in the center. The Russian commander, Marshal Kutuzov, recognized the danger and recalled forces from attacking the French right to counter Soult's attack. The battle against this counterattack began about 1000 and continued through 1100. By noon, Napoleon moved his CP and his reserve up to the Pratzen. The allies mounted another counterattack against the center with the Russian Imperial Guard at 1300, but the well-positioned French reserves, in coordination with Soult's forces, defeated them after much hard fighting by 1400.

This left Napoleon with the initiative to move against either allied wing to envelop one or the other. Napoleon's situational understanding was that the allied right could no longer intervene against him or support the allied center (although it was still in good order and

had good withdrawal routes) and that nearly half of the allied force still engaged the French right with a lake to their south. Accordingly, he directed his center to wheel south to its right, taking the allied left in the rear and destroying it. He left one corps in the center to secure the Pratzen Heights and his rear, while Soult's corps and the Imperial Guard executed the envelopment to the south. By 1430, the allied commander in the south recognized the peril to his force and directed its retreat, with about half escaping the encirclement by 1500. Some of the encircled Allied forces attempted to escape over the frozen lake to the south, but French artillery fired at the ice, breaking it and cutting off that avenue, while drowning over 200 men. By 1500, the allied right wing began its retreat, and by 1630, as dark fell, all firing stopped. The allied army was destroyed, losing over one-third of its force, and Prussia remained neutral. Austria sued for peace, breaking the Third Coalition, and the Russian Army retreated to Russia.

CONCLUSION

3-108. Control permits commanders to counter the effects of enemy actions, fog, and friction on operations, to include airspace over the AO. Commanders turn decisions into effective action through procedural and positive control. Information management supports control by providing structure to communications and transforming information in support of decision making.

Chapter 4

The Role of the Commander

The commander is the key to command and control (C2). He achieves C2 by combining the art of command with the science of control. He creates a positive command climate to inculcate and foster trust and mutual understanding. He trains his subordinates in C2, and uses the C2 system to direct operations. The commander remains the focal point for penetrating the fog of war, overcoming its unceasing friction, and instilling in his soldiers the will to win against any opponent.

The commander's knowledge, experience, and personality determine how he interacts with his unit through C2. He decides what he needs to do and the best method to achieve the end state, then leads his unit through mission accomplishment. The commander drives the process in mission command. Commanders use *influencing* leadership actions, normally issuing broad guidance rather than detailed directions or orders. The commander reserves the use of close personal supervision to intervene in subordinates' actions only in exceptional cases. He establishes a command climate for his unit, prepares it for operations, commands it during operations, and assesses his subordinates. Therefore, the commander establishes the unit's C2 system and operates it based on his personality. He establishes a system to meet the unique demands he places on it, the abilities and personalities of the soldiers, and the capabilities of the equipment in the unit.

COMBINING THE ART OF COMMAND AND SCIENCE OF CONTROL

4-1. The most important role the commander plays in C2 is to combine the art of command and the science of control. Commanders use activities of *visualizing* the battlespace, *describing* the visualization to subordinates, *directing* action to achieve results, and *leading* the unit or organization to mission accomplishment as their decision making methodology throughout the operations process. This methodology results in combining the art of command and the science of control.

LEAD

! Principles of War	! METT-TC
! Tenets	! Common Operational
! Experience	Picture

Visualize
Art of War/Science

Nature and Design
of the Operations

Battlespace

**Area
of
Operations**

OBJ

Describe
Art of War/Science

Time, Space,
Resources,
Purpose & Action

! Decisive operations
! Shaping operations
! Sustaining operations

Direct
Art of War/Science

Battlefield
Operating
Systems

! Intelligence
! Maneuver
! Fires
! Air defense
! M/S S
! CSS
! C2

Estimates   **Input from other commanders**

! **End state and conditions**
! **Center of gravity**
! **Decisive points**
! **Lines of operation**
! **Culminating point**
! **Operational reach, approach, and pauses**
! **Simultaneous and sequential operations**
! **Linear and nonlinear operations**
! **Tempo**

! **Planning guidance**
! **Intent**
! **CCIR**

! **Planning/Orders**
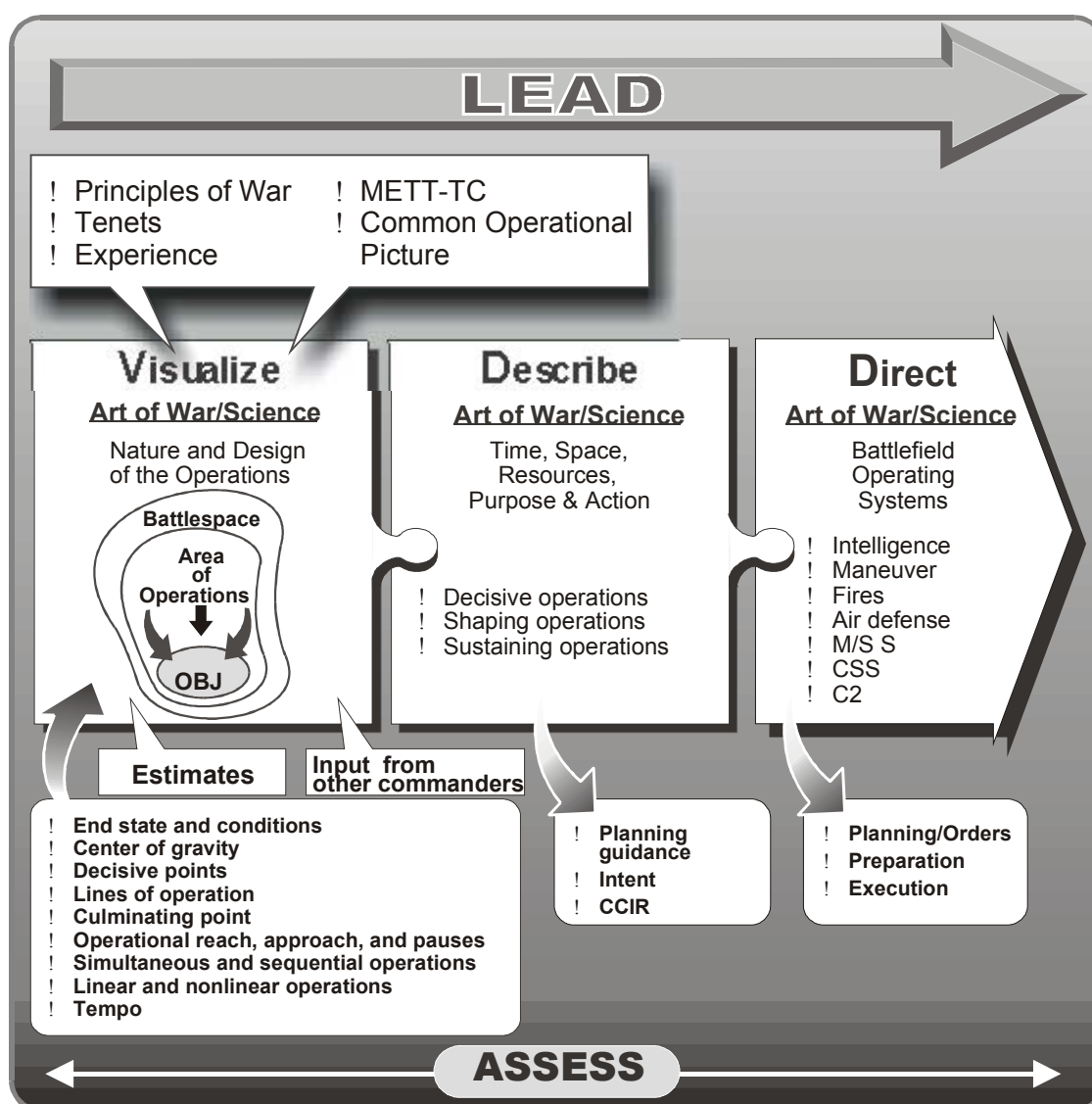! **Preparation**
! **Execution**

ASSESS

Figure 4-1. Visualize, Describe, Direct, Lead

> *"When he looked at a map, Zhukov did not just reproduce the picture of the past engagement; he could foresee the nature of the future encounter and in a matter of minutes play out, as it were, the various scenarios first for himself and then for the enemy. He could put himself in the enemy's place for a while so that when he became himself again he could evaluate the intentions of the enemy."*
> A. Chakovskly, "The Blockade,"
> *Fundamentals of Tactical Command And Control*

VISUALIZE

4-2. Military operations never take place in a vacuum; they always occur within a context. The commander's visualization begins with an already established situational understanding of the current situation. However, that understanding will not support planning, preparing, and executing operations until he receives a mission. Visualization is his essential means for assessing during the operations process.

4-3. Situational understanding supports the commander's visualization. The commander's critical information requirements (CCIR), continuously updated, guide his achievement of situational understanding. Information management supports situational understanding. The commander's understanding and visualization derive from the factors of METT-TC that are provided by functional experts who fuse new data into information within an operational context. As the commander achieves situational understanding, he then uses visualization to determine the end state and the ways of getting from the present state to the end state, including the dynamics among the friendly forces, enemy forces, and the environment.

Situational Understanding

4-4. Receiving or deriving a mission from an ongoing operation initiates the operations process. Assessing helps the commander initially focus his situational understanding on that mission, enabling him to determine his information requirements to develop his vision and to give initial guidance. In assessing, the commander integrates information received from human and technological collectors; he uses his staff to understand the situation rapidly, make effective decisions, and assess the preparation for and execution of operations. The staff helps the commander anticipate the outcome of planned and current operations, and assists him in developing a detailed concept for future operations. The commander and staff may employ many technological assets to assist in assessing the information on the battlefield. These assets can increase the accuracy and timeliness of information. As the staff processes the data collected, it raises the level of the information to knowledge, allowing the commander to apply judgment to form his situational understanding.

4-5. Before the commander can visualize the desired outcome, he first forms a clear understanding of the situation in the battlespace using the factors of METT-TC. This framing of the battlespace takes place during mission analysis. Further, the commander draws on the time-proven principles of war, tenets of Army operations, and his own experiences to visualize the operation.

4-6. Situational understanding helps commanders overcome and manage uncertainty. There are four sources of "fog" the commander and staff must overcome in achieving situational understanding:

- Inadequate or poor-quality information.
- Misinterpretation of information.
- Conflicting information or choices.
- Too much information.

There are four basic solutions to cope with the fog of war:

- Collecting and improving information or COP.
- Using assumptions.
- Reasoning analytically.
- Forestalling or preempting.

4-7. Two solutions resolve the fog of war created by inadequate or poor-quality information. First, collect more information, although time and other resources become factors in applying this solution. Second, using assumptions to fill in for missing or incomplete information can allow planning or execution to continue. Using assumptions requires the commander and staff to attempt continually to replace the assumptions with facts. This leads to developing information requirements that will supply the missing facts. If the assumption is critical to conducting the operation, the IR developed will most likely become CCIR. CCIR and essential elements of friendly information (EEFI) may change during an operation. Commanders continually review assumptions for need and currency.

4-8. The uncertainty caused by misinterpretation of available information is difficult to resolve because the user does not realize the interpretation is faulty. The only solution to this problem is to continue to question assumptions, question the interpretation of information in the light of new evidence, and not to dismiss conflicting interpretations without good evidence. One of the great dangers in information interpretation is to settle on an explanation of events based on a best guess of what they mean, and then to fit new information into that explanation uncritically. Periodically, the commander or the staff should seriously question any interpretation of events and information to ensure that it has not become a self-fulfilling prophecy.

4-9. The uncertainty caused by conflicting information or choices can be resolved through analytic reasoning or more information. Conflicting information suggests or leads to differing explanations or conclusions about the outcome of the situation. For example, evaluating progress can be a very normal source for conflicting information. Conflicting choices also occur when all options have similar advantages or serious disadvantages, and one is not clearly superior to the others. In this instance, sophisticated analytic reasoning or new information resolves the conflict sufficiently to reduce or manage uncertainty. Refining the problem or evaluation criteria to reduce conflicting information or choices can also help.

4-10. Forestalling can help solve the fog of war from all four sources, but it is usually not the primary technique for dealing with any single source. Two techniques are available. First, the commander makes incremental decisions or conclusions until other techniques, such as collecting more information,

have resolved the fog satisfactorily. Second, making contingency plans mitigates the effects of assumptions proving invalid, criteria or analysis proving faulty, or the initial decision proving wrong. Building flexibility into the plan to deal with a lack of clear information also facilitates exploiting opportunities. A good plan always accounts for uncertainty to some extent.

4-11. As the Army digitizes, the techniques used to overcome uncertainty during execution will also change solutions to overcome them. For example, the analytic power of INFOSYS may allow wider application of developing and testing assumptions and analytic reasoning. Likewise, the power of modern INFOSYS may reduce uncertainty of interpreting information and conflicting information.

4-12. The staff translates CCIR and EEFI into execution information by tasking assets to collect or protect information. Units collect and report the data to the C2 system. INFOSYS in the C2 system help process data into information, display it as the operational picture, and store it for future use. Units with access to INFOSYS share this operational picture as the COP, or INFOSYS may disseminate the information to them. Analyzing, evaluating, and applying judgment to the COP raises the information to knowledge and situational understanding about the relationship between forces—identifying opportunities, threats, and gaps in information. INFOSYS can provide assistance in these steps, although they do not currently apply judgment. Chapter 5 covers the role of INFOSYS more specifically.

4-13. If the commander's situational understanding is better than his opponent's, he has a significant but temporary advantage. He can maintain the advantage by acting faster than his opponent. The observe, orient, decide, act (OODA) cycle, discussed in Appendix A, shows how to maintain this advantage. Collecting data constitutes the OBSERVE activity of the cycle, and raising the meaning of information from data to understanding constitutes the ORIENT activity of the cycle. Using situational understanding and a mission to plan constitutes the DECIDE activity, and creating and disseminating execution information for unit responses constitute the ACT activity. Unit actions create new observations, and the process repeats. Figure 4-2 displays the cognitive hierarchy from Appendix B to show how meaning is added to data.
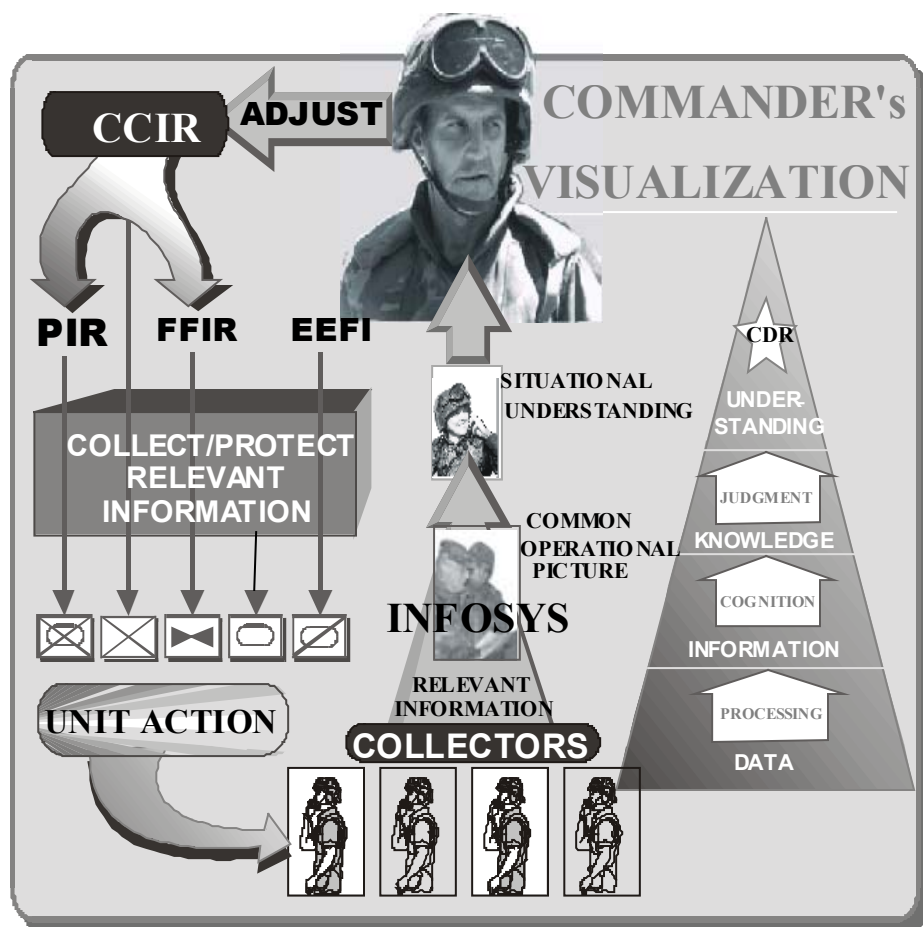
Figure 4-2. Situational Understanding

Commander's Visualization

4-14. Visualization is the core mental process that supports the commander in decision making. He uses visualization to understand the dynamic process of getting his forces from their current state or position to the end state, which represents mission accomplishment. Visualization allows him to know when, where, and if to make a decision. It can also provide the key to where and how the commander can best lead and motivate soldiers and see the battlefield, his own forces, the enemy, and the end state.
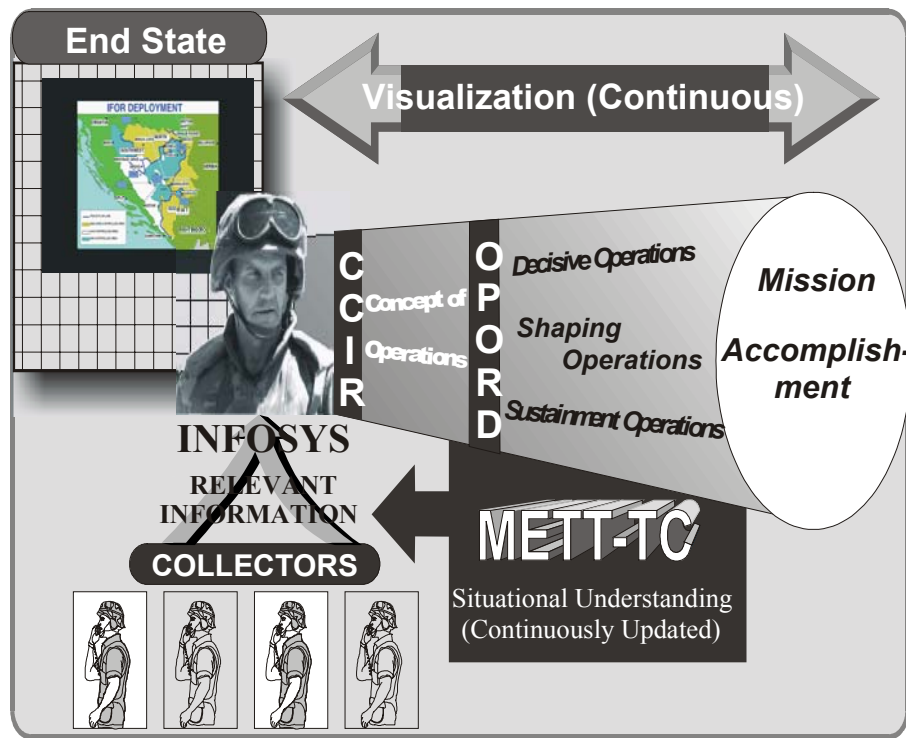
Figure 4-3. Visualization in Operations

4-15. Visualization begins with situational understanding of the battlespace and follows with a construct of how to get from where the organization is to where the commander wants it to go, which is a concept of operations. It commences in planning and continues throughout the operations process until the force achieves its mission. Visualization by the commander is a difficult and complex task. The staff processes and analyzes information obtained by human and technological means to provide the commander only needed information to make decisions. The commander then blends this information with his knowledge, experience, and intuitive feel to create his visualization. The commander can use wargaming or analysis to give him a feel for the relationships between enemy and friendly forces with respect to the terrain and mission. He may also use a technologically based simulation to give him an external picture that supports his visualization.

4-16. After receiving a mission, the commander develops his initial visualization, which he continually confirms or modifies. He uses the factors of METT-TC, basic tactical concepts, staff estimates, and the staff's experience and judgment to contribute to this visualization. He determines the desired end state. He then employs his visualization to compare the analyzed COAs and decides which COA to approve.

4-17. Time is equal for all actors within the battlespace (friendly, enemy, and neutral)—they can exploit or waste it. Commanders retain the initiative within the time dimension through both the timing and tempo of activities. Operations tempo, the rate of activities over time, is the advantageous shap

ing of time to retain the initiative. Commanders retain the initiative by arranging simultaneous and sequential activities to achieve desired effects.

4-18. Commanders visualize arranging activities simultaneously and sequentially to achieve desired effects. Simultaneity of activities in space and time overwhelms opposing commanders with a wide range of immediate decision requirements. Simultaneity in space presents opposing forces with devastating consequences throughout the depth of the AO. Simultaneity in purpose synchronizes the linkage between activities in the operational framework, ensuring that friendly forces direct all operations toward the desired end state.

DESCRIBE

4-19. The commander begins to describe his visualization when participating in the MDMP. Specifically, his commander's intent, his planning guidance, and his CCIR all serve to guide and focus the C2 system to support his decision making and communicate his decision for execution. While various technological means are available to provide support in rapidly assessing trends and suggesting previously unexplored COAs, the commander uses these tools judiciously. When using them, he applies judgment and experience before he makes his decision, rather than unquestioningly accepting their products and describing his decision to subordinates.
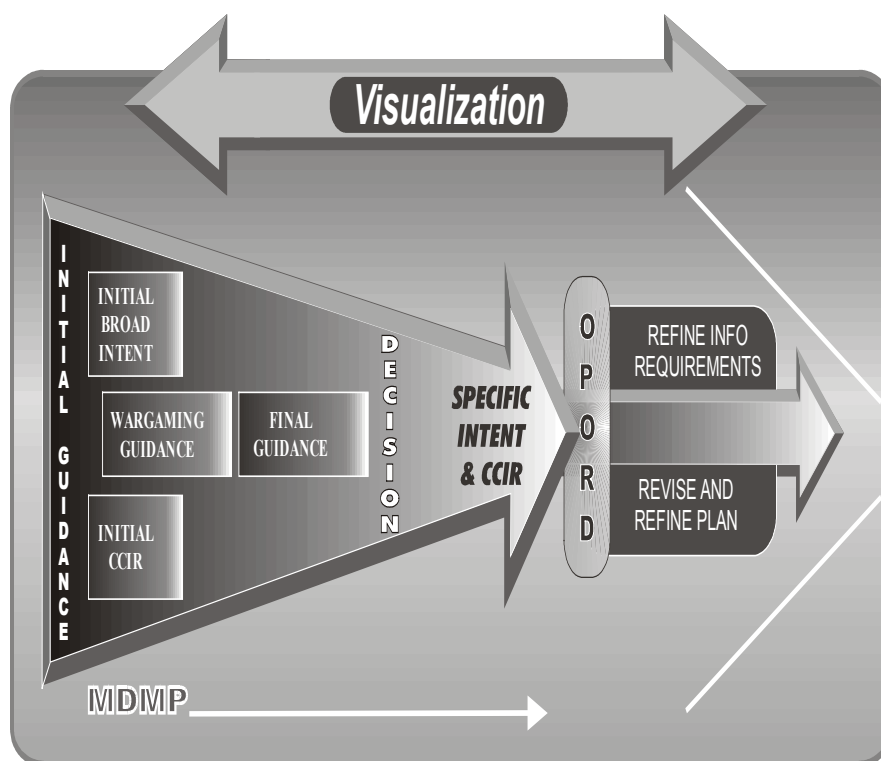
Figure 4-4. Visualization and Describing

4-20. At the earliest stages of the operations process, the commander makes the most use of art to replace missing information to support an informed situational understanding, as Figure 4.5 shows. At the start of the MDMP, the commander may expect to have gaps in information relative to the assigned mission. Nevertheless, he makes some initial decisions. One decision is what information or intelligence he needs to fill those gaps. He uses intuition to fill those gaps to make other decisions until the C2 system provides him information. The commander continues to describe in COA analysis. While the C2 system tries to provide more science to support situational understanding, Figure 4-5 represents an ideal rather than reality. The reality is discussed later.
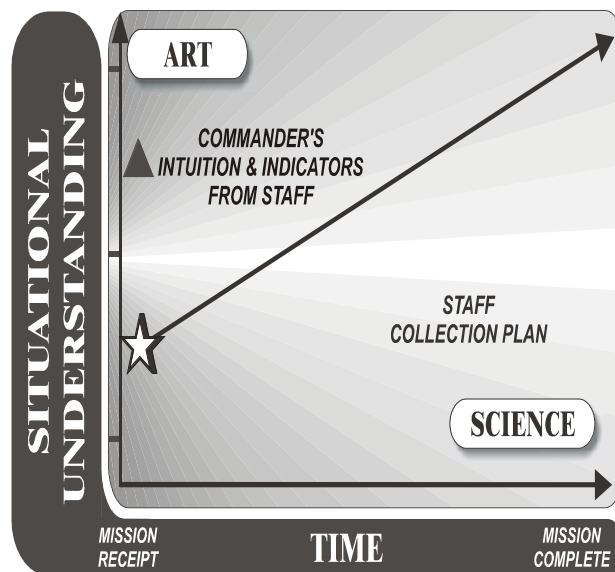
Figure 4-5. Visualization in Planning

4-21. Commanders describe the operation in terms suited to the nature of the mission and their experience. The commander visualizes time and space within the operational framework: the AO, battlespace, and battlefield organization. With the aid of the operational framework, the commander decides how to conduct operations to achieve the end state. He should also carefully use the vocabulary for task and purpose found in FM 3-90 for constructing mission statements.

4-22. The commander uses the rehearsal to further describe his intent and concept to his subordinates, identify and discuss options at decision points, synchronize activities within the force and among his subordinate forces, and add to his own visualization.

Commander's Intent

4-23. As information during mission analysis comes to him, the commander focuses on developing COAs through the restated mission, his initial commander's intent, planning guidance, and CCIR. The commander's intent serves as a driver of the MDMP, not as a product. Later in the operations

process, the commander's intent focuses execution, especially subordinates' initiative.

4-24. The commander's intent provides the link between the mission and the concept of operations by stating the end state and key tasks that, along with the mission, are the basis for subordinates to exercise initiative when unanticipated opportunities arise or when the original concept of operations no longer applies. If the commander wishes to explain a broader purpose beyond that of the mission statement, he may do so. The mission and the commander's intent must be understood two echelons down.

4-25. The commander begins constructing his intent by using the end state from his visualization that represents success for the force in its mission. This visualization of the end state includes the state of the friendly force relative to the enemy and the environment. The commander then looks at the current state of his forces, the enemy, and the environment, using situational understanding, and visualizes the dynamic interaction among those elements as the friendly force moves from the current state to the end state. This dynamic aspect from his visualization helps him determine the key tasks necessary to achieve the end state.

4-26. Key tasks are those that the force as a whole must perform or conditions the force must meet to achieve the end state and stated purpose of the operation (paragraph 2, Mission, of the OPORD or OPLAN). Key tasks are not tied to a specific COA: rather, they identify that which is fundamental to the success of the force as represented by the end state of the intent. In changed circumstances, when significant opportunities present themselves or the COA no longer applies, subordinates use these tasks to keep their efforts supporting the commander's intent. The operation's tempo, duration, and effect on the enemy, or terrain that must be controlled, are examples of key tasks. Key tasks do not constitute specified tasks for any single subordinate command of the force, although they may be the source for some implied tasks.

4-27. The commander's intent does not include the "method" by which the force will get from its current state to the end state. The method is the concept of operations. Nor does the intent contain "acceptable risk." Risk is stated in the commander's guidance and is addressed in all COAs. If purpose is addressed in the intent statement, it does not restate the "why" (purpose) of the mission statement. Rather, it is a broader purpose that looks beyond the why of the immediate operation to the broader operational context of the mission.

4-28. The commander personally prepares his intent statement. He makes his independent and sometimes intuitive assessment of how he intends to win. When possible he delivers it, along with the order, personally. Face-to-face delivery ensures mutual understanding of what the issuing commander wants by allowing immediate clarification of specific points. The intent becomes the benchmark on which staff and subordinates develop plans and orders that transform thought to action.

Planning Guidance

4-29. The commander develops guidance to the staff from his visualization. Planning guidance may be as broad or detailed as circumstances dictate. However, it must convey to the staff the essence of the commander's visualization of the operation. He uses his experience and judgment to add depth and clarity to the planning guidance. The commander attunes the staff to the broad outline of his visualization, while still permitting the necessary latitude for the staff to explore different options. He may, for example, identify decisive points and describe the concentration of combat power against each.

4-30. The commander's guidance should especially focus on COA development, analysis, and comparison. The guidance focuses on the key tasks supporting mission accomplishment. The guidance emphasizes in broad terms when, where, and how he intends to mass his combat power to accomplish the mission according to his higher commander's intent. Commander's guidance should include priorities for all combat, CS, and CSS elements and how he envisions their support of his concept. The amount of detail in the guidance depends on the time available, the staff's level of proficiency, and the flexibility the next higher commander provides. Guidance that is broad and general in nature provides the staff maximum latitude, allowing a proficient staff to develop flexible and effective options. As time becomes more constrained, the commander's guidance must become more specific and directive. The more detailed the guidance, the more quickly the staff can complete the plan. However, this increases the risk of overlooking or insufficiently examining things that might affect mission execution. See FM 5-0 for information that can be included in detailed guidance.

4-31. If, during visualization, the commander identifies one or more decisive points, or an operation he considers decisive, he conveys this insight to the staff. This should be where an enemy weakness allows maximum combat power to be applied, leading to mission accomplishment. This point is not an end state but a location on the ground, a time, or an event where the force can achieve decisive results. The commander can describe it verbally, with a sketch or on a map. It shows how he visualizes the array of forces at the decisive point, what effects on the enemy he expects, and how these effects lead to mission accomplishment.

CCIR

4-32. The commander uses CCIR to focus the collection of information to support his visualization and to make critical decisions. This begins with his initial CCIR to identify gaps in information and his initial intent—initially based more on art than on science—to create his vision of the end state. He also states EEFI to focus protection of information. See Appendix B.

4-33. The CCIR focus the staff in information management, to include allocating resources—ISR and friendly force reporting—to collection tasks. CCIR spare the commander from receiving irrelevant information as well as subordinate headquarters from receiving excessive queries for information.

> *"...one of the most difficult things we have to do in war is to recognize the moment for making a decision. Information comes in degrees. Shall we make a decision now or shall we wait a little longer? It is usually more difficult to determine the moment for making a decision than it is to formulate the decision itself."*
> Adolf von Schell, *Battle Leadership*

DIRECT

4-34. The commander directs when he decides on the COA and communicates that decision to subordinates in a plan or order. He or the staff analyzes each COA for suitability, feasibility, and acceptability to select COAs for further analysis. After COA analysis and COAs comparison using criteria of success derived during the wargame or analysis, the commander selects or approves the COA.

Orders and Plans

4-35. In mission command, the goal is to direct with mission orders. They should enable subordinates to understand the situation, their commander's mission and intent, and their own mission. Subordinate commanders decide how to accomplish the mission. This provides unity of effort in exercising initiative by those subordinate commanders in planning and executing their missions.

4-36. Mission orders stress not merely the actions required of subordinates but also understanding their context and purpose. While clear direction is essential to the success of the mission, commanders strike a balance between necessary but minimum direction and overly detailed direction. A subordinate who takes action first, within his commander's intent, and reports later may often achieve far more than one who delays action to wait for his commander's confirmation.

Control Measures

4-37. Control measures further direct action by establishing specific responsibilities and limits to prevent units from impeding one another and to impose necessary coordination. They may be permissive or restrictive. A commander should only impose the minimum control measures to provide essential coordination and deconfliction among units. The commander removes restrictive control measures as soon as possible. Control measures may be graphical, written, or procedural. See FM 3-90 for a discussion of control measures associated with particular types of operations and FM 1-02 for a listing of doctrinal control measures and rules for drawing control measures on overlays and maps.

4-38. Well-conceived control measures facilitate current and future operations. As the operation evolves, the commander adjusts them as necessary to maintain synchronization and freedom of action to ensure mission accomplishment.

Prepare

4-39. During preparation, the commander continues to use visualizing, describing, and directing for decision making. He updates and validates his visualization as the results of ISR operations become available. During friendly preparation, the enemy also prepares. As friendly assumptions prove true or false; as intelligence confirms or denies enemy actions and the condition of the environment; and as the status of friendly units changes during preparation; the commander determines whether the new information invalidates the plan, requires him to adjust the plan, or validates the plan with no further changes. The earlier the commander identifies the need for modifications, the easier it is for him to incorporate and synchronize them into the plan. He uses his updated visualization to balance the loss of synchronization and coordination caused by a change to the plan against the problem of executing a plan that no longer fits reality. He describes his view of the implications of the changes for his visualization and the plan, and he directs actions to effect his revisions to them.

Execute

4-40. Combining the art of command and the science of control through visualizing, describing, and directing is most evident during execution, as is leading. The commander exercises judgment and initiative continuously, assessing the situation and making decisions, often with incomplete, conflicting, and vague information. Waiting for perfect information is rarely an option. During execution, the commander, supported by his C2 system, continually evaluates the progress of the operation to ensure that subordinate units execute appropriate measures for the actual situation. He adjusts the disposition of the force, the tasks assigned to subordinates, and the priorities for support to achieve the greatest effect at the minimum cost to friendly forces. He modifies some tasks, even if the plan unfolds as desired. A major part of the art of command is knowing when the plan must change and determining the right changes to ensure success. Critical to command is determining what criteria point toward a need for changes and then determining what required changes get the maximum effectiveness from the unit within the higher commander's intent.

4-41. The commander fights the enemy, not the plan. No plan survives intact once contact is made; the enemy rarely acts exactly as predicted. This is the principal cause of fog, and the commander modifies the plan to account for enemy reactions. The key to tactical flexibility is a well-trained, flexible unit with sound battle drills, flexible leaders capable of adapting to rapidly changing circumstances, and a staff that recognizes significant changes in the situation, prepares FRAGOs, and coordinates to alter the plan accordingly. The commander's intent can do much to allow prompt and effective exercise of subordinate's initiative with minimum direction. This greatly enhances the ability of the force as a whole to react effectively and quickly to changes in the situation.

4-42. Execution is much more than putting the decision—communicated through orders or plans—into action. It includes a continuous process of assessing the current state of the operation and making adjustments to exploit

opportunities and account for unforeseen enemy actions. During this process, the commander uses his visualization, continuously updated with a current COP, to provide that assessment of the progress of operations. CCIR—continuously updated during operations—guide his situational understanding updates. After the start of planning, he might expect his situational understanding to improve steadily, but this improvement does not take the straight line as suggested in Figure 4-5. Rather, it improves in an uneven fashion as the unit feels the influence of the effects of fog and friction, as shown in Figure 4-6. Nor will the level of understanding ever be perfect, even at the end of the operation. Normally, as the operation progresses, a greater proportion of the visualization comes from control. The commander does not restrict his visualization to the current operation, however. Even as his situational understanding of the current operation improves, he extends his visualization to include the end state of the follow-on operation, answering questions of where the force goes or what is the new end state.

4-43. As he visualizes the implications of events and his solutions during execution, he describes his conclusions to his staff and subordinates through updated CCIR and guidance. He then directs actions when necessary, primarily through FRAGOs.
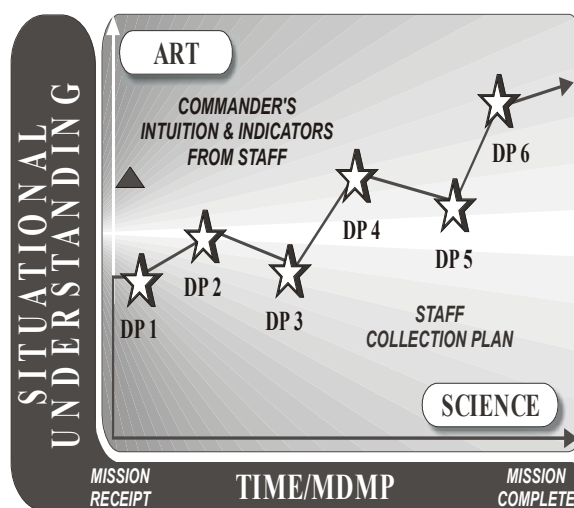
Figure 4-6. Visualization in Execution

4-44. As the commander assesses the operation (described in Chapter 6), he uses visualization to recognize decision points. They can be foreseen by the plan or caused by unanticipated enemy reactions. He uses his C2 system to provide realistic alternatives, enabling visualization to evolve. The net effect is that he can rapidly and effectively adjust the initial plan to adapt to changing situations precipitated by the enemy or changes in the status of friendly forces. The commander should not hesitate to modify his plan or scrap it altogether if he thinks it is necessary to save the force and the mission, or to achieve a greater success. Adhering to a plan when the situation changes significantly wastes resources and opportunities and may risk defeat. The flexibility to adapt to changing situations is the hallmark of a good tactician. The commander is flexible in his thinking, and his unit is flexible

enough to execute mission changes on short notice. Commanders at all levels create and nurture this capability in themselves and their subordinates.

4-45. The dynamics of operations create the need for adjustments during execution. As the force proceeds on its mission as shown in Figure 4-7, the dynamics of operations initiate an action-reaction-counteraction series of responses between friendly and enemy commanders. As one gains an advantage over the other, the other commander makes a decision that counters it. If the reaction succeeds, then the first commander decides to adjust his operation. Even a successful action or reaction may require an adjustment to exploit the advantage. In all cases, the commander's visualization helps him recognize the need to make a decision. The decisions generate FRAGOs to adjust the operation.
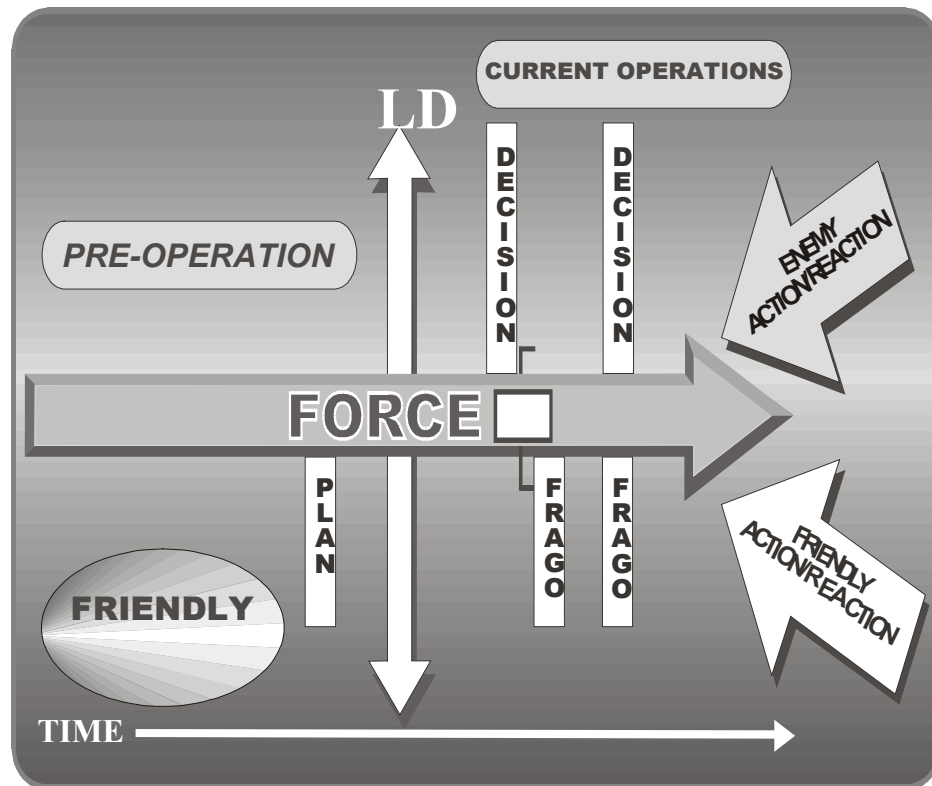
Figure 4-7. Adjustments During Execution

4-46. Adjustments take many forms. One form is to shift assets from one part of the operation to another. The commander can allocate additional combat support, such as artillery and engineers, or reinforce with additional combat units. However, he avoids reinforcing a failing effort. If an operation is failing, the commander should not strengthen it without a clear indication that additional resources will result in success, or he has no better options for employing those additional resources. He should reinforce success if this creates opportunities for more success. During execution, the commander uses visualization to determine if the variances of the operation reported by the C2 system differ significantly from his visualization of how the plan will unfold.

If they do, then he determines their meaning for the progress of the operation. If progress is not satisfactory, he makes a decision to solve the problems identified in the operation or to take advantage of opportunities, as discussed in Chapter 6. Depending on the time available or the complexity of the problem, he may use analytic decision making, to include the MDMP when appropriate, or intuitive decision making. Once he directs action to account for the new situation, he adjusts his visualization to take account of the new circumstances his decision introduced into the operation. Chapter 6 describes decision making during execution in detail.

CREATING A POSITIVE COMMAND CLIMATE

4-47. Whether in peacetime or during operations, a commander—by force of his personality, leadership, command style, and general behavior—influences the morale, sense of direction, and performance of his unit, including his staff and subordinate commanders. It is a commander's responsibility to create and maintain a positive command climate. He accomplishes this through influencing, operating, and improving leadership actions. These actions rest on the foundation of values, attributes, and skills the individual commander possesses and develops. FM 6-22 discusses the responsibilities of all leaders for establishing the organization's climate.

4-48. Part of the command climate must be the commander's style and philosophy of command; the organization should become accustomed to how he commands. Modifying either the commander's style or the C2 system may accomplish matching the style to the system; practically, how the commander achieves this constitutes part of the art of command.

4-49. The commander gives his command an identity, promotes its pride, inspires it with a sense of common purpose and unity of effort, and gives it achievable aims to ensure success. Along with discipline, comradeship, and self-respect, morale is fundamental to achieve this goal.

4-50. Successful mission command depends on a command climate that encourages subordinate commanders at all levels to think independently and to take the initiative. Subordinates also expect to know the "reason why." A commander should explain his intentions to his subordinates and foster a sense of involvement in decision making and shared commitment. The following factors help create a positive command climate:
- Accepts risk and errors.
- Fosters trust and mutual understanding.
- Communicates with subordinates.
- Builds teamwork.

Morale is a state of mind. It is that intangible force which moves a whole group of men to give their last ounce to achieve something, without counting the cost to themselves, that makes them feel they are part of something greater than themselves.

Field Marshal Sir William Slim, *Defeat Into Victory*

ACCEPT RISK AND ERRORS

Judgment comes from experience and experience comes from mistakes.
General of the Army Omar N. Bradley

4-51. The commander inculcates risk acceptance within his command in two ways. First, leading by example, he makes decisions in training and operations that accept risk. However, he employs the risk management process to ensure he reduces risk to an acceptable level. At such times, he informs his subordinates either at the time of the decision (if time permits) or in the after-action review (AAR) what residual risk he accepted and why. He ensures that risk management does not become risk aversion, particularly for tactical risk.

4-52. Second, he accepts risk in his subordinates' decisions, while ensuring they conduct risk assessment and reduce risk to the lowest level. In training he might allow them to take the consequences of a too-risky tactical decision, instructing them afterward on a more appropriate level of tactical risk. He ensures they conduct risk assessment for accident risk. In operations he may have to intervene if the level of tactical risk is too high for the benefits expected. The commander establishes his own trust in his subordinates' judgment and initiative, just as they must learn to trust him. FM 3-100.14 provides details on risk management.

4-53. Inculcating risk acceptance goes hand in hand with accepting errors. The commander accepts that subordinates may not accomplish all tasks initially, and errors may occur. However, with such acceptance in the command climate, subordinates learn, gaining the experience required to operate on their own. In addition, they trust that their superior will give them the authority to act and that he will back their decisions. Because trust and mutual understanding, discussed below, constitute the foundation of subordinates exercising initiative, the commander trains subordinates to act within his intent when they exercise initiative. Likewise, commanders give subordinates the latitude to make mistakes and learn.

4-54. There are two basic types of errors: errors of commission and errors of omission. Errors of commission occur when a person attempts to act toward some end, such as accomplishing a mission. Errors of omission occur because a person failed to act, often because he did not want to accept the risk associated with that action. Subordinates willing to risk errors of commission show initiative, and they stand a greater chance of seizing initiative or opportunity. Subordinates committing errors of omission—failing to act—would not be as apt to seize initiative or opportunity. For this reason, commanders prefer errors of commission to errors of omission in fostering mission command.

4-55. US Army training doctrine and its methodology emphasize the importance of learning from training. Indeed, mistakes are integral to the theory of discovery learning, the basic methodology of the AAR process. Underwriting subordinates' honest mistakes is one key to building trust and mutual understanding. The commander cannot stop at underwriting mistakes, however. He may correct the subordinate in private, he may use a mistake, including his own, for public discussion of a better way to accomplish the same purpose, or he may correct any systemic problems that reveal a mistake.

4-56. However, the commander cannot underwrite continued mistakes by a subordinate who indicates a critical lack of judgment or mistakes of omission where subordinates fail to exercise their initiative. The art of command lies in determining which mistakes to underwrite and learn from and those not to underwrite. A too-punitive approach to mistakes by subordinates can lead to a zero-defects climate or mentality, leading to negative effects on mission command. An approach too lenient to mistakes results in lowered standards.

FOSTER TRUST AND MUTUAL UNDERSTANDING

4-57. When relayed in an environment of trust and mutual understanding, the commander's intent frees the commander to move about the battlefield knowing his subordinates understand the end state and that he supports their decisions physically and morally. Additionally, the commander operates knowing that subordinates accurately and promptly report both positive and negative information. Trust and mutual understanding are critical to the tempo of decentralized operations. The commander fosters this trust and mutual understanding by word and deed.

4-58. Commanders educate and train themselves, their staffs, and their subordinates in the common doctrine to establish mutual understanding. A common doctrine provides a unifying framework of understanding. A common approach to C2, based on a professional understanding of doctrine and a common terminology, assists mutual understanding and is a fundamental tool of mission command.

4-59. The commander can use modern INFOSYS (discussed in Chapter 5) to foster trust and mutual understanding through using the video teleconferencing capabilities to exchange personal views about tactical or leadership situations. This enables commanders and subordinates to receive and participate in exchanges of information. With wider dissemination and more precise and accurate processing of information, INFOSYS can allow commanders to share the information and displays they base their situational understanding on, giving context to their discussions and orders. Another capability that supports this goal is the white board, in which commander and subordinates can rapidly and graphically test options and share ideas.

"Magnificent, but not War": Misunderstood Orders and the Charge of the Light Brigade (25 October 1854)

During the Crimean War, five weeks after the Russians had been soundly defeated at the Alma River, they had gone over to the offensive, and in late October 1854, a large Russian force was threatening Balaclava. Impatient at the slow passage of his infantry, Lord Raglan decided to use cavalry to disrupt the Russians. He sent an order to Lord Lucan shortly after 10:15 on 25 October 1854: "Cavalry to advance and take advantage of any opportunity to recover the Heights. They will be supported by the infantry which have been ordered to advance on two fronts." There was only the Causeway Heights to "recover"; therefore, the cavalry's role should have been clear to Lucan. "On two fronts" could have meant Campbell advancing from Kadikoi in cooperation with the 1st and 4th Divisions. In fact, the plan was for Cambridge and Catchcart to approach the captured redoubts on the Causeway Heights from the North and South Valleys respectively. Receiving Raglan's order, Lucan immediately moved Lord Cardigan's Light Brigade into the North Valley, keeping the Heavy Brigade close to No. 6 redoubt in the South Valley. Justifiably, he did

not intend to launch any attack until the British infantry arrived, and certainly not against prepared enemy positions. At this stage, there could have been no doubt that Raglan's intention was to recapture the redoubts.

Much of the Causeway Heights and the ground in the North Valley was obscured from Lucan, nor could he see, as Raglan and his staff could, that Russian artillerymen (the Odessa Regiment) were preparing to take away the captured guns from Nos. 1-3 redoubts. As the capture of guns was frequently used to claim victory, Raglan was anxious that the Russians not succeed in this. As Lucan could see no sign of infantry support, however, he felt that no "advantageous opportunity" had arrived for him to recover the Heights. Exasperated by Lucan's inactivity, Raglan dictated another order, one that would later be the subject of bitter and protracted debate: "Lord Raglan wishes the cavalry to advance rapidly to the front—follow the enemy and try to prevent the enemy from carrying away the guns. Troops horse-artillery may accompany. French cavalry is on your left. Immediate." Captain Nolan, known to be critical of the cavalry's performance, especially of Lucan's leadership, delivered this order to Lucan. Lucan was somewhat puzzled and concerned by this message: from where he sat he could see neither enemy nor guns. He asked Nolan for clarification, to which Nolan replied "Lord Raglan's orders are that the cavalry should attack immediately." Reputedly Lucan retorted: "Attack, sir! Attack what? What guns, sir?" Nolan's response, verging on insubordination, was to stretch his arm forward and say "There, my lord, is your enemy; there are your guns." Lucan was furious at the disrespect, but was too proud to question Nolan further. Nevertheless, had this order been read in conjunction with the previous order, there should not have been any confusion. Lucan chose, however, to attack the battery at the eastern end of the North Valley (the only guns he could see), rather than "to recover" the guns on the Causeway Heights. He issued orders to this effect to Cardigan. Cardigan pointed out to him that the Russians had a battery to their front and batteries and riflemen on each flank, but Lucan replied: "We have no choice but to obey." At 1110 the die was cast for one of the bloodiest, most glorious, but ultimately senseless engagements in British military history. In the words of French General Bosquet, an eyewitness, the charge was "magnificent but not war... It is madness."

COMMUNICATE

More than 50 percent of battle command in VII Corps was non-electric. That's because we were a team forged together quickly during deployment. We practiced using intent. Commanders talked to each other. We were inside each other's heads.
LTG Frederick Franks, CG, VII Corps, DESERT STORM

4-60. Written directives, including those transmitted electronically, continue to have an indispensable place in exercising C2, including administration, to ensure clarity and consistency of approach. In war, oral communications may be more important than written, not only for reasons of time but also of leading. Face-to-face communications are the most effective, because humans use more than words to express themselves. An Israeli commander from the Six-Day War of 1967 said it best:

There is no alternative to looking into a subordinate's eyes, listening to his tone of voice.
Yashayahu Gavish, IDF, 1967

4-61. Commanders take positive steps that encourage, rather than impede, communications among and with their subordinates and staff. They make themselves available to communications and information. Otherwise, they will find that their lack of communication has caused the situation mentioned below:

General Meade was an officer of merit with drawbacks to his usefulness which were beyond his control….He made it unpleasant at times, even in battle, for those around him to approach him with information.

U.S. Grant, *Memoirs*

4-62. Commanders make their intentions, whether written or oral, clear to subordinates. During operations, there is seldom time for questions or debate over the meanings of tactical terms or command expressions. The most famous misunderstood order in American military history—issued within an organization notorious for its lack of cohesion and trust between commander and subordinates and among subordinates—illustrates this point:

Benteen. Come on. Big village. Be quick. Bring packs. P.S. Bring packs.
W.W. Cooke, Adjutant to LTC George A. Custer, 25 June 1876

BUILD TEAMWORK

4-63. The fundamentals of building teams, essential for mission command, are contained in FM 6-22. Under current conditions of operations, commanders often develop teamwork among units and staffs task organized on an ad-hoc basis. Using doctrinal terms and symbols provides a method of developing teamwork. Building on the cohesion available at lower echelons provides another method. Training and rehearsals provide other opportunities for developing teamwork. The commander develops teamwork between officers and noncommissioned officers. He can attain this goal by including and requiring officer-NCO teams during training, especially on staffs. He can also use senior NCOs to provide training to junior officers and all members of staff sections.

TRAINING SUBORDINATES IN COMMAND AND CONTROL

4-64. Training subordinates in C2 includes command prior to operations, promoting leadership qualities, and assessing subordinates.

COMMAND PRIOR TO OPERATIONS

4-65. Before commencing operations, a commander directs, trains, and prepares his command. He ensures that sufficient resources are available. He also concerns himself with the professional development of individuals to make them suitable for positions of increased responsibility. As mission command requires an understanding of operations two levels up, training future commanders reflect this requirement. Training subordinates is a key responsibility of all commanders in peacetime; its neglect or delegation without adequate supervision can undermine the effectiveness and fighting power of the Army.

Foster an Understanding of War

4-66. Professional development includes evoking an interest in the critical study of past campaigns and battles, and the study of human behavior, to learn relevant lessons for the future. While there is a scientific side to war, it is an applied science rather than a theoretical one. Often the basis of such studies is historical research, but that should not be the only basis. However, as Sir Michael Howard advised in his lecture, "The Use and Abuse of Military History" (1961), the commander needs to apply caution in drawing lessons from the past. He causes subordinates to undertake such study in breadth, depth, and context if it is to "improve the officer's competence in his profession."

4-67. Professional development cannot be limited to military history, but should include human behavior. The commander should lead in educating subordinates through a variety of professional development activities that challenge subordinates to think, promote an understanding for the realities of war, and widen military perspectives in peacetime. Such nonhistorical professional development activities include: tactical exercises without troops (TEWTs), participating in simulations of tactical problems, developing new technical skills, and professional reading and discussing current military doctrine and unsolved problems.

Develop Staff Procedures and Interactions

4-68. Commanders apply doctrinal staff procedures and interactions within their organizations, developing those areas where doctrine does not provide sufficient guidance and adapting procedures to their organization's situation. These procedures and interactions, which unit SOP capture, must follow the command principles of mission command if the organization is to employ mission command. Leaders train their units to use these SOP to govern routine actions. Training subordinates in this way develops a unit where simple concept statements by the commander lead to swift, coordinated, effective action by the unit. Training on the MDMP can serve to refine staff procedures and interactions as well as develop the staff collectively and individually. This training can serve as a vehicle to develop the organization's command principles.

Train Staffs and Subordinates

4-69. Commanders train their subordinates to operate in the absence of detailed orders. With information available to all levels of the command and increasing dispersion on the battlefield, junior leaders may find themselves operating almost autonomously. The commander trains his subordinates to counter unexpected enemy actions and to take advantage of unforeseen opportunities.

4-70. Training provides the means to practice, develop, and validate—within constraints—the practical application of a common doctrine. Equally important, it provides the only peacetime basis for firsthand experience that is essential to commanders and staffs in exercising C2. Also, commanders can use training events to create experience and trust within their organizations, fostering teamwork and the confidence of the force. FMs 7-0 and 7-10 provide

doctrine and tactics, techniques, and procedures for training that commanders can adapt to provide structured training in C2.

4-71. The commander is responsible to train his staff fully as an integrated team to include how to collect, process, display, store, and disseminate information effectively to support his requirements. Commanders educate themselves, their staffs, and subordinates in making decisions and developing the resulting plans. This training must include decision making with MDMP, under both unrestricted and time-constrained conditions. This training should emphasize seizing fleeting opportunities, reacting to unforeseen enemy actions, modifying plans when conditions change, and producing a product that is good enough, and beats the enemy's decision cycle.

4-72. Efficient execution of plans requires using procedures flexibly. Drills are strict, methodical training or an exercise of procedures. Doctrine provides the basis for drills in procedures, and the unit should use them to the maximum extent possible in peacetime. Just as individual soldiers and crews have drills for routine parts of their jobs to maintain proficiency, C2 personnel have procedures to maintain proficiency through drills. The quicker the unit executes these drills, the better the force develops and maintains tempo.

4-73. Finally, the commander aggressively trains to overcome the institutional obstacles to mission command that the operations tempo and personnel turbulence of the Army present. Among these institutional obstacles are constant deployments with task organizations of units that have not trained together, personnel turbulence caused by operational commitments, and constrained financial resources. In particular, the training must create common experiences that increase mutual trust and allow the organization to acquire competence in mutual understanding—through explicit and implicit communications—to achieve unity of effort through the commander's intent with decentralized operations.

PROMOTE LEADERSHIP QUALITIES

4-74. The commander promotes leadership qualities by developing them in himself and in his subordinates. But qualities alone do not make a successful commander. A successful commander develops a balance among the qualities. The fact that an officer has been appointed a commander does not automatically endow him with these qualities. Rather, all officers develop them internally to prepare for command. In general, the higher the level of command, the wider the scope of required qualities. In addition, the emphasis on and among the qualities changes with the level of command. For example, soldiers at higher levels are likely to require greater moral than physical courage. FM 6-22 identifies these qualities as the values, attributes, skills, and actions of the leader. However, all commanders emphasize the warrior ethos.

4-75. The warrior ethos is perishable, so commanders continually affirm, develop, and sustain it. Developing it demands inculcating self-discipline in the commander, his subordinates, and the organization to harden their bodies and souls through physical training, and exertion and mental toughness to endure extremes of weather and lack of sleep and food. Commanders develop an iron will, determination, and confidence in themselves, their subordinates, and soldiers to overcome all odds and meet mission demands.

4-76. The commander's role in training subordinates lies in providing an example of the values and attributes of a leader and demonstrating the leadership skills and actions. Further, he can use his responsibilities to learn and develop these qualities and attributes in himself and his subordinates.

4-77. Training and education can develop many of the skills required of commanders. In particular, specific training systems, such as computer-assisted war games and exercises, can enhance clarity of thought and judgment, including decision making. Likewise, development, including practice, is necessary to allow subordinates to take effective actions in operations. All commanders have some level of ability to develop; even the genius improves his ability through developing his skills. Major General J.F.C. Fuller observed:

Like the great artist the general should possess genius, and if he does not,
then no effort should be spared in developing his natural abilities in place
of suppressing them.

ASSESS SUBORDINATES

No man is more valiant than Yessoutai. No one has rarer gifts. But, as the
longest marches do not tire him, as he feels neither hunger nor thirst, he
believes that his officers and soldiers do not suffer such things. That is
why he is not fitted for high command.

Genghis Khan, assessing a subordinate.

4-78. Once appointed, a commander assumes the role of coach and mentor to his subordinates. He begins by careful study of the personalities and characteristics of his subordinate commanders. Some need a tighter rein; others work best with little or no guidance. Some tire easily and require encouragement and moral support. Others, perhaps uninspired in peace, flourish in conflict and war. Matching talent to tasks is an important function of command. The commander judges men so that he can appoint the right subordinates in the right place for the right time. Assessing individuals and handling them to the best effect applies to the commander's staff as well as to his subordinate commanders. The commander also assesses subordinates by providing them experience and opportunity to grow through assignments that stretch them. Recognizing subordinates' strengths and limits is vital to effectively exercise command. As Jomini remarked:

He [Napoleon] fell from the height of greatness because he forgot that mind
and strength of men have their limits, and the more enormous the masses
set in motion, the more subordinate does individual genius become to the
inflexible laws of nature, and the less is the control which it exercises over
events.

4-79. One of a commander's most important duties is to evaluate his subordinates and to identify talent—future potential candidates for senior appointments in command and on the staff. To assess the command qualities of subordinates objectively, commanders should place individuals in circumstances where they must make decisions and live with the consequences. Subordinates must know that their superiors have sufficient confidence in them to permit honest mistakes. Training should give commanders the opportunity to judge their subordinates on the qualities commanders should possess. In par

ticular, assessing subordinates should confirm whether they exhibit the necessary balance of intelligence, professionalism, and common sense required to carry the added responsibilities that go with promotion. FM 6-22 discusses specific techniques for counseling and evaluating subordinates formally.

BATTLE COMMAND

4-80. Battle command is the exercise of command in operations against a hostile, thinking opponent (FM 3-0). Decision making and leadership are two sides of battle command. As the senior leader of an organization, the commander directly applies the leadership element of combat power. Subordinate commanders and small-unit leaders reinforce that element.

4-81. The existence of an operational mission against enemies who actively attempt to accomplish their mission (while the commander attempts to accomplish his) distinguishes battle command from other cases of command. In so doing, a thinking, competitive, adaptive enemy consciously attempts to disrupt the friendly commander's operations. He leads his forces through a time of uncertainty and fear to defeat his enemy quickly at minimum cost to his own forces. This aspect of operations underscores the importance of the intelligence BOS, to include integrated ISR operations, as an integral part of battle command. At the same time, the commander maintains the morale and material well-being of his troops and posture his forces for future operations. The complexities of operations rarely allow a carefully rehearsed plan to unfold smoothly. To succeed, a commander selects and maintains his intent resolutely while displaying flexibility in his approach.

4-82. Effective battle command demands superior decisions; superior in the sense that they are both more timely and more often effective than the decisions made by adversaries. The outcome of engagements, battles, and major operations depends on not only superior information, but also on superior *decision making* based on that information. This is an important aspect of information as an element of combat power. Decision making often requires the commander to make value judgments on the quality of information received through staff analysis and technical sources. It also requires the commander to focus subordinates and staff on what information is important. These are tactical, operational, and strategic judgments. Commanders anticipate and understand the activities that follow decisions, knowing that some commitments are irretrievable once put into motion. Guided by doctrine, commanders make decisions using judgment acquired from experience, training, study, imagination, and creative and critical thinking.

4-83. Turning to the other side, battle command imposes a premium on leadership skills and actions that contribute to effective decisions. The volume of available information challenges leaders at all levels. They assimilate an enormous amount of information to visualize the battlefield, describe their intent, and direct their subordinates' actions. Visualizing the battlefield is a continuous requirement for commanders. This requires the commander to understand the current situation, broadly define the future situation that equates to mission success, assess the difference between the two, and envision the major actions that link them. In order to translate this visualization into action, staff members and subordinates must understand it. The com

mander describes his vision in succinct planning guidance and intent, together with enough detail to focus planning and preparation.

4-84. Achieving strategic and operational goals largely depends on tactical success when applying military force. Battle command during operations at the tactical level demands sound knowledge and understanding of tactical doctrine, the commander's ability to translate his superior's intent into effective action at his level, and expertise in applying tactics in operations. The tactical commander exercises C2 quickly because both he and his enemy can react quickly to the situation in the AO. He also exercises C2 directly because there are few levels of command between him and the effect of his directions on operations. The tactical commander concerns himself more with tactical success in the current engagement and less with long-term planning and execution.

4-85. The commander is key to battle command, driving the process to produce effective decisions and to execute them. He participates in discussing his role in combining the art of command with the science of control. However, he does not do this alone; he uses his C2 system, described in the following chapter, by defining and focusing it in the direction he desires.

STABILITY OPERATIONS AND SUPPORT OPERATIONS

4-86. The distinction between higher and tactical echelons in battle command during stability operations and support operations is not clear-cut. First, there may be multiple enemies; they may be non-human (for example, man-made or natural disasters), and not all of the enemies will directly oppose the commander on every issue. Second, commanders at lower tactical levels may be confronted with legal, political, and media pressures normally associated with senior command. For example, military commanders are unlikely to have unity of command, nor may all the actors in these situations be under local command, military or otherwise. In these operations, commanders find their planning less focused on concentrating the effects of combat power on an enemy than on concentrating less lethal resources against multiple objectives, some of which are, or may become, enemies—and the civil centers of gravity. Finally, commanders accustomed to training and operating at the tactical level may find explicit operational-level considerations when exercising command during these operations.

4-87. Communications and liaison are more important and widely used in stability operations and support operations by commanders than in offensive and defensive operations to achieve unity of effort, trust, and mutual understanding, including organizations not subordinated to the commander. In stability operations and support operations, they ensure that force-wide communications link the services with other organizations, such as non-governmental organizations (NGOs). Many of these organizations can affect military operations, yet they may have goals and operations significantly different from the commander's. Their systems may not be compatible with the military's, yet applying INFOSYS to provide accurate and timely dissemination of information in these operations is vital to the commander's situational understanding. Commanders may have to expand the use of liaison officers (LNOs) and normal rules of communications.

LOCATION OF THE COMMANDER

One of the most valuable qualities of a commander is a flair for putting himself in the right place at the vital time.
Field Marshal Sir William Slim

4-88. One of the fundamental dilemmas facing any commander is where he should position on the battlefield. A commander leads. There is no ideal pattern of leadership or simple prescription for it; different commanders lead in different ways. Leadership is essentially creative. As far as operational conditions allow, leadership must be up front; a commander should see his troops and they see him. Being up front allows leaders to assess the state of operations face-to-face with their subordinate commanders and their soldiers so that they can gather as much information as possible about actual combat conditions when making decisions in uncertain circumstances. The commander goes where he can best influence operations. Leading up front does not mean taking over a subordinate's responsibilities; leading up front contributes to morale and allows the commander to concentrate effects for the unit at the critical time and place.

4-89. The commander considers his position in relation to the forces he commands and his mission. His location can have important consequences, not only for the command organization but also for conducting operations. Modern INFOSYS can assist commanders in achieving forward command without paying the price of losing communications with or connectivity to the information and analysis of their CPs. Should they require a larger facility to exercise C2 temporarily, they can use one of their subordinate CPs and establish communications to allow them access to the full resources of their CP.

4-90. At the lowest tactical level, the commander leads by personal example, acquires much information himself, decides directly, and physically communicates with those he directs. Typically, he positions himself well forward where he can influence the decisive operation directly. However, even at these levels of command, the commander cannot always command his whole unit directly. Therefore, he has to consider the factors below in deciding his command presence.

4-91. As the echelon of command increases, the commander commands more indirectly through his subordinates. He may want to have personal contact or intervene to lead or to make decisions at the location or unit executing the decisive operation. Similarly, when a commander loses his feel for the situation, he needs to reestablish a clear visualization of events.

4-92. In larger tactical and operational formations, the headquarters normally is the focus of information flow and planning. Yet commanders cannot always visualize the battlefield, direct, and synchronize their units' efforts from a computer screen at the CP. Commanders sometimes assess the situation face-to-face with subordinate commanders and their soldiers—away from their CPs. The C2 system must permit commanders to position themselves wherever they can best command without depriving themselves of the ability to respond to opportunities and changing circumstances.

4-93. While there may be occasions when personal intervention overrides all other factors, the commander also considers how his command presence

would affect his ability to command through the width and depth of his AO. If a commander is too close mentally or emotionally to the action, he risks becoming so engaged that he obscures his overall visualization and undermines his efforts and those of his subordinates. More important, the commander weighs the cost to the command and the operation of his being killed or wounded—with a potential loss of momentum or intent until a replacement can succeed to command—against the benefits to his decision making, inspiration and morale for his troops, and recognition of opportunity. Finally, the commander realizes that his choice of location for his presence may well not be at the critical action but at a time or place that has become relatively unimportant. This reinforces the necessity for mission command, and the commander can rely on his subordinates to restore or exploit the situation without his presence.

4-94. At all echelons of command, the most suitable position for the commander is where he can best influence the progress of the battle or engagement. He conveys importance and focuses the efforts of his organization by his physical presence. When he chooses to place himself forward, he not only gains a feel for the actual conditions of combat, but also proves to his soldiers that he shares their danger and may inspire them by his physical presence. At higher echelons of command, the commander's decision about where to position himself is less straightforward than at lower echelons. The commander has a wider range of responsibilities, and a more complex operational framework influences his location. However, he has more resources to move about the battlefield and more and redundant C2 systems to facilitate his locating where he can make the greatest impact.

4-95. Commanders can provide focus to the decisive operation through personal attention and presence. In addition to exercising leadership as part of command, they can observe events more directly and avoid the potential delays and distortions that occur as information flows up the chain of command. Commanders gain firsthand appreciation for the situation that can rarely be gained any other way. Equally important, they can avoid the delays and distortions that occur as information travels down or up the chain of command. Finally, by their presence, they direct emphasis to critical spots and focus efforts on them. The following basic factors influence the decision on the commander's location; they are common to all levels of command:

- Need to **see and experience** firsthand.
- Need to **motivate** and **lead**.
- Access to **information** to make timely decisions.
- Ability to judge the **condition** and **morale** of his forces.
- **Communicate** to subordinate, adjacent, and higher formations.
- **Decision making** capability.
- **Security**, including physical protection.
- **Time** and **location** of critical events.

4-96. The location of the commander also varies with the purpose of gathering information. If he seeks information about the immediate situation, he expects to go where the critical action or situation is developing. This may mean at or near the point of contact or with a subordinate commander—in his

CP, at a critical point along a route of march, or in a C2 aircraft above the battlefield. A commander who wants an overview of the situation gathers various reports from separated sources at his command post. However, senior commanders should come forward to the subordinates' headquarters rather than require subordinate commanders to travel to higher headquarters to exchange information. Finally, if a commander wants to see the situation from the standpoint of his enemy, especially if the enemy has made a bold and unexpected move that shattered the commander's situational understanding, the best location may be one separate from distractions and interruptions.

Command Forward

4-97. Command cannot be effectively exercised solely from the CP. Much of battle command should take place forward. Modern C2 systems facilitate this by allowing the commander to access information needed for C2 from anywhere in the AO. Forward presence allows him to obtain the context of reports and actions, as well as the command climate, nuances that technology has a hard time conveying. Personal visits give the commander the chance to talk to soldiers in forward units to assess their morale. Forward command also allows the commander to focus efforts without intervening in his subordinates' fight, and to provide the will and resolve to overcome inevitable obstacles. Finally, forward command allows the commander to demonstrate that he is sharing the risk with his soldiers.

4-98. German Field Marshal Erwin Rommel among others considered forward command so important that he consciously paid the price of loss of communications with his command post, his forces (other than the ones they were visiting), and his higher headquarters. As a division commander in 1940:

[Rommel] believed...in commanding from the front. The opportunities of battle present themselves fleetingly, and can only be seen by eye and seized by the mind of one at the critical point. But to command a large and complex formation of all arms while simultaneously placing oneself at such a critical point or points requires a well-thought-out technique.

Sir David Fraser

Command Forward: General Eichelberger t Buna (December 1942)

GEN Robert L. Eichelberger's accomplishments at Buna in northeastern New Guinea in December 1942 provide many lessons in the challenges of battle command. His extraordinary leadership qualities allowed him to transform ineffective units into a potent fighting force.

In autumn 1942, US forces were attempting to establish forward positions and air bases from which to dislodge the Japanese from the Southwest Pacific. The 32d ID was to eliminate Japanese positions in Buna. By the end of November, however, the division had made little progress, and MacArthur sent I Corps Commander GEN Eichelberger there to correct the situation, with instructions to "remove all officers who won't fight [and]... if necessary, put sergeants in charge of battalions and corporals in charge of companies." Eichelberger and his staff arrived on 2 December and were disturbed by what they observed during their initial inspection: troops were suffering from a number of tropical dis

eases, rations were scant, the men showed little discipline or military courtesy, morale was low, and organization was very poor. Only a few of the troops were on the firing line; many were in the rear areas, sent there initially to recover from illness or injury, but now lost to effective control. Units had become mixed, which also complicated control. Fearing the jungle, troops were afraid to patrol and, consequently, did not know the location of Japanese positions. Leadership at all levels was ineffective.

Eichelberger moved quickly to address these problems. He had supplies flown in and distributed, so that troops were much better fed, clothed, and medically treated. He stopped the fighting for two days to reestablish effective command and control. Patrols were sent out nightly, and Japanese positions were identified. Several commanders, including the division commander himself, were replaced with officers who could instill a more disciplined and aggressive attitude. Eichelberger was frequently near the front, despite personal risk. Although it increased the danger of enemy fire, he displayed his rank at the front so that his troops would know that their commander was present. In addition to demonstrating to his men that he was willing to take the same risks he was asking them to take, Eichelberger was able to observe battlefield conditions personally, leading to better battlefield visualization. By 3 January, after a series of resolute, albeit costly, attacks, Eichelberger was finally able to suppress organized Japanese resistance.

When Eichelberger arrived in Buna, he immediately set out personally to assess troop conditions and to envision his desired end state. He succeeded in both. On the one hand, he engaged actively in caring for his troops, providing for their medical, nutritional, clothing, and equipment needs, and adopting measures to protect the security of his force. On the other hand, he communicated his operational concept to his subordinate commanders and mobilized his combat assets, concentrating decisive combat power at the required time and place. He rewarded effective officers with increased command responsibilities and removed ineffective commanders. His forward presence not only set a personal example by sharing his men's hardships and dangers, but also allowed him to obtain a first-hand impression of combat conditions, which resulted in more accurate and comprehensive battlefield visualization.

CONCLUSION

4-99. The commander above all combines the art of command and the science of control in exercising C2. He focuses the science of control through applying the art of command—decision making and leading—to support him and regulate forces and operating systems. He creates a positive command climate to exercise C2 through mission command. He accustoms the staff and subordinates to his style and philosophy of command, accepts legitimate risk and errors, fosters trust and mutual understanding, inculcates positive communications, builds teamwork, and establishes and uses values and examples. Training his staff and subordinates in C2 includes training and preparing his command prior to operations, promoting leadership qualities, developing the warrior ethos, and assessing subordinates. Finally, he uses battle command in directing operations to successfully accomplish missions.

Chapter 5

The Command and Control System

A commander cannot exercise command and control (C2) without support except in the simplest and smallest organizations. Even at the lowest levels, a commander needs support to exercise C2 effectively. At every level, the C2 system provides that support.

The C2 system is not only equipment; it is all resources used to support C2. The art of establishing the C2 system lies in allocating sufficient resources to support C2 while simultaneously maintaining the effectiveness of other systems. The C2 system must not waste resources through unnecessary duplication, although

a certain level of redundancy is necessary for robustness. The commander uses the C2 system to support decision making and to disseminate his decisions to subordinate commanders.

This chapter covers the resources that the commander must devote, acquire, or receive to accomplish C2 functions. It includes organizing those

resources to exercise C2 and establishes the command post as the doc-
trinal organization for exercising C2 during operations.
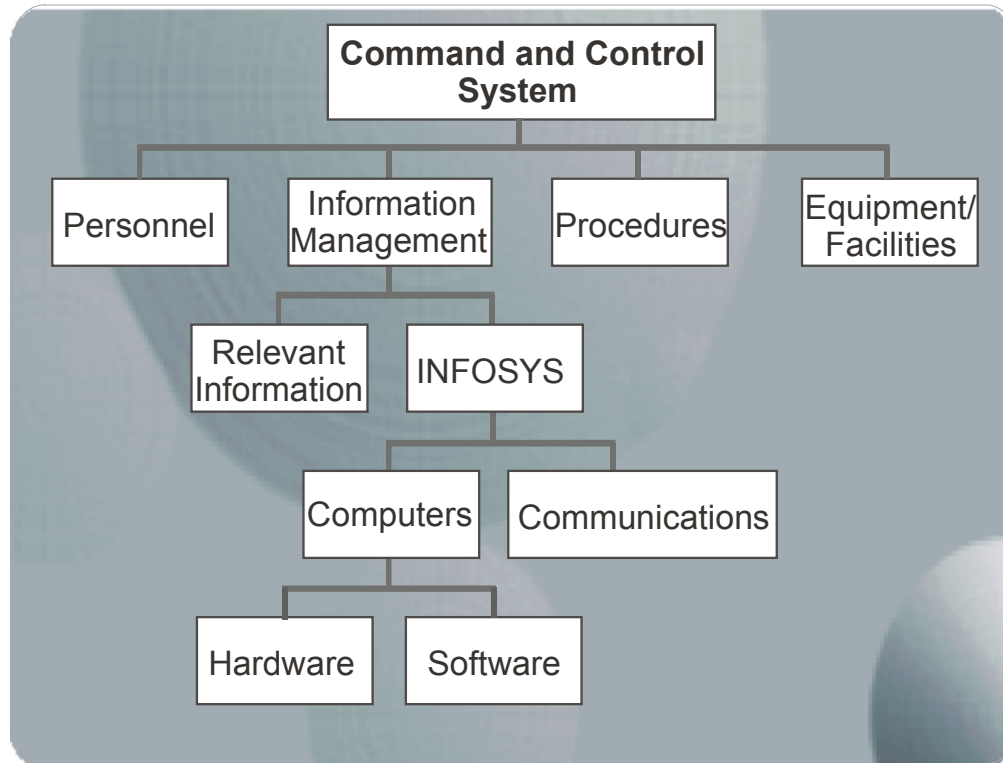
Figure 5-1. Elements of the C2 System

GENERAL

5-1. **The C2 system is the arrangement of personnel, information
management, procedures, and equipment and facilities essential to
the commander to conduct operations.** Figure 5-1 shows the elements of
the C2 system graphically. The C2 system supports the commander through
three basic functions:

- Creates and maintains the common operational picture (COP).
- Supports decision making by improving its speed and accuracy.
- Supports preparation and communication of execution information.

5-2. Figure 5-2 shows graphically how the C2 system accomplishes these func-
tions for the commander and among higher, lower, and adjacent forces. The
graphic also shows the relationships of the information management (IM) ac-
tivities—collecting, displaying, processing, storing, and disseminating—
within the C2 system. The rest of the chapter discusses general concerns of
the C2 system as a whole (location and design considerations) and each
component in turn. Since the manual discusses IM and relevant information
(RI) elsewhere, this chapter covers the INFOSYS component of IM in detail.
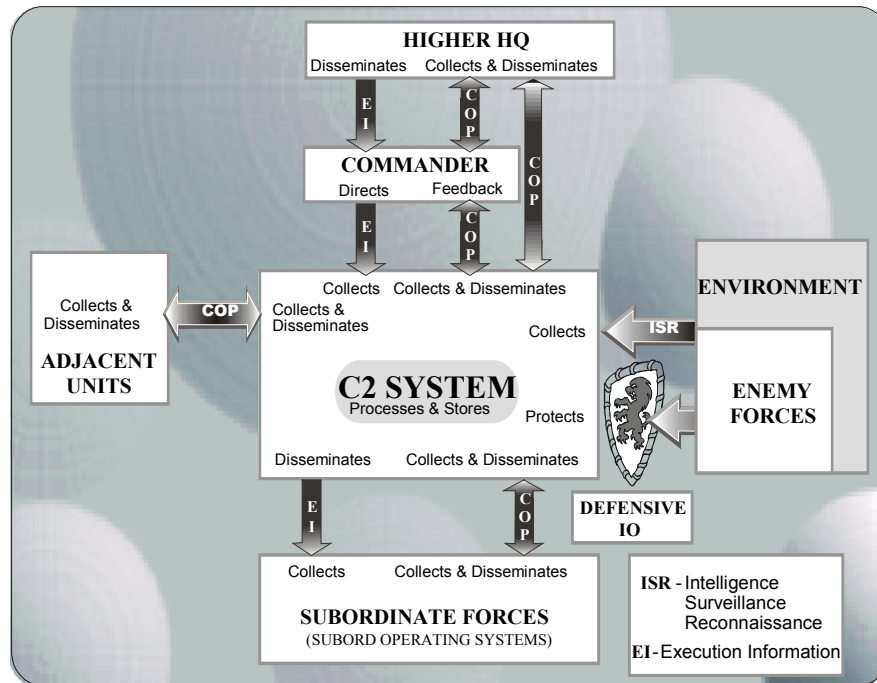
Figure 5-2. Information and the C2 System

LOCATION

5-3. Determining the location of the C2 system is an important decision. Reliable communications—together with the administration support of the commander and his staff—are vital to the continuity and effectiveness of the C2 system. Because facilities constitute high-value targets for the enemy, the security of the C2 system is an important consideration. Effective communications and security depend on location. The following characteristics determine a suitable location for the physical elements of the C2 system:

- *Communications*. The site must offer good communications to superior, subordinate, supporting, supported and adjacent headquarters. It should be screened from enemy offensive IO attacks. Access to civil communications and information systems (especially in stability operations and support operations) may be important. At higher echelons, maintaining communications with the host nation, the home base, and other service and force components are considerations.
- *Security*. Facilities must provide security for personnel and equipment. Security is achieved through physical and electronic protection and concealment, and nuclear, biological, and chemical (NBC) defense measures. Dedicated or on-call forces may provide physical security for C2 facilities. Electronic security considerations must be balanced against the communications requirement.
- *Concealment*. Although discussed separately, concealing facilities provides security. Woods or built-up areas offer the best concealment from view. Barns, large sheds, or factory complexes all help counter thermal imagery surveillance and provide some basic NBC protection.

- *Accessibility*. The site should be easily accessible yet not readily detectable by enemy land or aerial reconnaissance. Higher-level commands may also consider access to ports or fixed-wing airfields.

DESIGN AND ORGANIZATION CONSIDERATIONS

5-4. While the details of the C2 system depend on the level and nature of the command and its assigned missions, the following should be considered in designing and organizing a C2 system:

- *Deployment*. The C2 system must deploy easily to, or within, a theater or AO. The size and mobility of the C2 system affects deployability. The number of systems available and their size, weight, and power considerations all affect deployability. C2 system deployability must match that of the unit.
- *Continuity of Command*. The C2 system must function 24 hours a day in all seasons. The C2 system's external communications meet this requirement primarily by its survivability in the face of ground, air, or other threats.
- *Fusion of Command and Staff Effort*. The C2 system should integrate and facilitate command and staff efforts. The internal layout and equipment of the facilities should facilitate lateral communications between various staff sections and the commander.
- *Size*. A larger C2 system may provide greater flexibility and survivability through greater redundancy. This comes at the cost of potentially slower decision making, greater resource investment, and decreased agility, security, deployability, and mobility. A smaller system may limit support for C2, but increase survivability and mobility. Several smaller dispersed systems may provide equal redundancy and greater survivability than one large system. The key is to strike the right balance and provide a responsive yet agile organization. The commander must identify necessary elements and eliminate those that are not.
- *Hardness*. Hardness refers to the degree of physical and electronic protection provided to the C2 system, primarily by facilities and equipment. Hardening extends beyond providing armored vehicles or protection, such as NBC collective protection, to other vehicles or facilities; it involves a combination of active and passive measures. Dispersed C2 systems help reduce a unit's electromagnetic signatures.
- *Modularity*. Modular C2 system design offers flexibility in deploying and employing. It allows elements to deploy as required by the type of operation and situation. Later, the C2 system can add elements to accommodate expansion. Larger headquarters can occupy smaller facilities by using smaller, mission-tailored communications. However, the commander must balance the advantages of separation against the disadvantages of loss of personal contact and team planning.
- *Capacity*. C2 systems require sufficient capacity to cope with the quantity of information necessary for a force to operate effectively and to ensure timely passage of that information.
- *Survivability*. C2 systems must be reliable, robust, resilient, and at least as survivable as the supported force. Distributed systems and al

ternate means of communication meet these requirements. The commander should organize and deploy C2 systems to ensure that performance under stress degrades gradually, not catastrophically. C2must adapt to cope with communications degradation or failure.

- *Range*. C2 systems need enough range to link all headquarters with which they must communicate, to include those outside the force's AO. Increasingly, this means providing a reachback capability from the deployed AO to home station, which may require satellite systems.
- *Mobility*. A C2 system must have the mobility of the force it supports. Some elements of the C2 system, especially those that provide range and connectivity to the rest of the force, may need to move more quickly.
- *Control of the electromagnetic spectrum*. A finite part of the electromagnetic spectrum is internationally allocated for military use. In a joint or multinational context, frequency management is difficult, even in a benign environment. Efficient use of the available and allocated spectrum is critical to coherent communications architecture.
- *Interoperability*. In joint and multinational operations, communications systems must be compatible and interoperable. Military systems need to work with civilian systems, particularly during stability operations and support operations where military communications systems might be integrated, such as with the communications system of the police force.
- *Sustainability*. A C2 system must integrate and facilitate the close coordination between commanders and CSS planners as they collaborate in planning, coordinating, integrating, and conducting operations. Advances in technology enhance achieving CSS situational understanding and provide the linkages for operational reach and sustainment operations.

PERSONNEL

5-5. The most important element of the C2 system is *people*—soldiers who assist the commander and exercise control on his behalf. The personnel dedicated to the C2 system include the staff, deputy commanders, and seconds-in-command. The other elements exist to serve the personnel and the commander. An effective C2 system must account for the characteristics and limits of human nature. Simultaneously, it should exploit and enhance uniquely human skills.

STAFF

5-6. The staff exists to support the commander in making and implementing decisions. The most important element among personnel dedicated to the C2 system, it focuses on supporting the commander and his subordinate units. It provides RI and analysis of that RI, makes estimates and recommendations, prepares plans and orders, and monitors execution. .

5-7. The commander provides his staff leadership, direction, and guidance. The staff undertakes all its activities on behalf of the commander. It has no authority by itself; it derives authority from the commander and exercises it

only in his name. The commander uses the staff to exercise C2 when he cannot do so himself.

5-8. The larger a staff, the longer it takes to perform its functions. In the words of General William T. Sherman, "A bulky staff implies a division of responsibility, slowness of action and decision, whereas a small staff implies activity and concentration of purpose." Also, a larger staff occupies more space, emits a larger electromagnetic signal, and is less mobile than a small one. Consequently, it is more vulnerable to detection and attack. A large staff with numerous specialists may be more capable of detailed analysis and planning than a smaller one, but mission command values speed and agility over precision and certainty. Commanders should keep the size of staffs to a minimum to facilitate a high operating tempo and minimize the space and facilities the headquarters requires. See Appendix C for general discussion of staff organization.

Functions

5-9. The staff operates the C2 system that supports the commander. All staff organizations and procedures exist to fulfill three important functions:

- Support the commander.
- Assist subordinate units.
- Keep subordinate, higher, adjacent, supported, and supporting headquarters informed.

5-10. *Support the commander.* The staff's most important role is to support and advise the commander during the operations process. It does this through information management and controlling its functional area.

5-11. The primary staff product is information and analysis for the commander's situational understanding. The staff uses information management to make the vast amount of information available manageable for the commander. It collects data, processes it into useable information in the form of the COP and staff estimates, and makes recommendations based on staff members' expertise in functional areas. This allows the commander to identify critical requirements and achieve true situational understanding faster than his adversary.

5-12. The commander structures formal staff processes to provide the two types of information associated with decision making. All other staff activities are secondary. The first is the COP, which, when combined with judgment, leads to situational understanding for decision making. The staff, aiding in achieving situational understanding, provides feedback to the commander for decision making.

5-13. The staff also disseminates execution information (see Appendix B). While the commander often disseminates some execution information personally, such as his intent, he relies on his staff to communicate the majority of it in the form of plans and orders. The staff must communicate the commander's decisions, and the intent behind them, throughout the organization efficiently and effectively to quickly focus the unit on mission accomplishment.

5-14. Finally, the staff exercises control over its functional area during the operations process. While the commander makes the key decisions, he is not the sole decision maker. A trained, trusted staff, given authority for decisions and execution based on commander's intent, frees the commander from routine decisions to focus on key aspects of the mission or operation. This clearly furthers mission command. Standing operating procedures (SOP) establish these responsibilities, or the commander delegates them for specific situations.

5-15. *Assisting subordinate units.* While the staff's priority is assisting the commander, it also assists subordinate. The ability of subordinate units to train and fight depends on the actions of their higher headquarters staff. A proficient staff works in an effective, efficient, and cooperative manner with higher and lower headquarters. The staff assists subordinate units by providing resources to them in consonance with their commander's decisions, representing subordinates' concerns to the command, clarifying orders and directives, and passing all RI quickly.

5-16. The relationship between the staff, and the staffs and commanders of higher, lower, supported, supporting, and adjacent units is important. The staff must establish and maintain a high degree of coordination and cooperation with staffs of higher, lower, supporting, supported, and adjacent units. The staff must base this relationship on mutual respect, developed through a conscientious, determined, and helpful approach focused on solving problems. Anything less undermines the confidence and trust required for mission command at all levels. Favorable personal relationships among all members of a headquarters staff and with the staff of other headquarters cultivate the desired relationship.

5-17. *Inform subordinate, higher, adjacent, supported, and supporting headquarters.* The staff must pass all RI to other headquarters as quickly as possible after determining the information's value to the recipient. The key is *relevance*, not meaningless masses of data. Information should reach recipients based on their need for it. Sending incomplete information sooner is better than sending complete information too late.. When forwarding information, the staff should highlight key information for each recipient and clarify the commander's intent. The staff may pass information directly, include its own analysis, or add context to it. Common, distributed databases can accelerate this function; however, they cannot replace personal contact to add context.

5-18. Keeping other headquarters informed contributes to situational understanding at all headquarters. While the commander is responsible for keeping his superior and subordinate commanders informed, the staff supplements his direct communications by providing clarification through staff or technical channels. It can either pass routine information required by the other headquarters or pass critical information based upon the CCIR. Information passed directly from a subordinate staff to a higher commander should be limited to the higher CCIR. All other information should go through staff or technical channels. When authorized, the staff may also apprise its counterparts at other headquarters of the content of the information being passed from its commander to their commander. This helps the higher staff perform its own support functions to its commander.

Staff Relationships

5-19. Staff effectiveness depends in part upon the following relationships:
- Commander and staff
- Staff integration and teamwork

5-20. *Commander and Staff.* The commander is responsible for all that his staff does or fails to do. He cannot delegate this responsibility. The final decision, as well as the final responsibility, remains with the commander. When he assigns a staff member a mission, he also delegates the necessary authority for the staff member to do it. The commander provides guidance, resources, and support. He must foster an organizational climate of mutual trust, cooperation, and teamwork.

5-21. The commander and his staff focus on recognizing and anticipating battlefield activities to decide and act faster than the enemy. Although a commander sets the pace as the principal decision maker, his relationship with his staff must be one of loyalty, respect, and initiative within the scope of his intent. However, the loyalty and respect must not detract from hard truth in assessments by the staff. Before the decision, the staff gives honest, independent thought and recommendations to the commander to confirm or restructure his vision. Likewise, the staff must provide an accurate COP based on estimates and recommendations after the operation commences, even if it conflicts with his decision. Independent thought and timely action within the staff are vital to mission command. See Appendix C for further discussion of staff officer characteristics.

5-22. The commander is responsible for training the staff. He may delegate routine staff training to the chief of staff, but the commander must shape them into a cohesive team that works together and understands what information he deems important. As an extension of the commander, the staff must know his leadership style, understand his intent, and be able to anticipate the outcome of current operations to develop concepts for follow-on missions.

5-23. *Staff integration and teamwork.* Integrating and creating teamwork in an effective and closely-knit staff team within and between headquarters and units is essential. A staff cannot work efficiently without complete cooperation among all branches and sections. A commander, chief of staff, and executive officer (XO) all play a role in fostering this atmosphere, and they work during peacetime as well as on operations to achieve this. However, frequent changes of personnel and infrequent opportunities to exercise under operational conditions can frustrate this effective climate. The factors of personnel turbulence, operations tempo, and budgetary restrictions can act against achieving the teamwork and trust needed for mission command, deterring staff integration. These factors require specific attention and solutions by the commander and his veteran staff members to overcome.

5-24. All staff sections within a headquarters are tasked with functions to support the commander's intent and unit mission. While all sections should have clearly defined responsibilities, none can operate effectively in isolation. Coordination among them is important. The commander must identify interaction between staff sections early in the process of organizing the headquar

ters. He should equip and man the staff to work not only with other sections within the headquarters but also with similar sections in other headquarters. See Appendix D for specific staff responsibilities and duties.

5-25. Forming *ad hoc* headquarters, organizations, and units, and integrating additional personnel from coalition partners have characterized many of the Army's recent operations. Accordingly, forming a well-integrated staff team as the basis for counteracting these influences is critical. To do this, the commander and staff must use the remedies suggested in Chapter 4 to achieve substitutes in training for operational conditions. This well-integrated staff provides the core on which additional members may be integrated and *ad hoc* organizations and units added with fewer problems than in a staff that is not well-integrated through training.

SECOND IN COMMAND

5-26. The second in command at all levels is the principal assistant to the commander. Seconds in command are deputy commanders, assistant commanders, and XOs. At company through brigade level, the XO is the second in command. The Army usually assigns assistant or deputy commanders as seconds in command for regiments, separate brigades, and division and above. At corps and major support command levels, there is normally only one deputy or assistant commander. At division level, there are normally two assistant commanders, one for maneuver (ADC-M) or operations (ADC-O), and one for support (ADC-S).

5-27. The relationship between the deputy or assistant commander and the staff is unique. Staff members do not work for the deputy or assistant commanders unless the commander directs this relationship. Each commander must describe his deputy or assistant commander's roles, duties, and relationships with the CofS, the staff, and the commanders of subordinate units. Normally, he assigns specific fields of interest and responsibility to his assistants to decentralize decision making while maintaining overall command.

5-28. Deputy or assistant commanders normally do not have coordinating or special staffs. When they have specific responsibilities, the headquarters staff assists them as the commander prescribes. Deputy or assistant commanders give orders to the CofS (or the staff) within the commander's limits. They may go to the CofS at any time for staff assistance. If a deputy or assistant commander needs a staff, the commander may detail officers from the headquarters or subordinate units to help him, or make a subordinate unit's headquarters available to him.

5-29. At lower tactical levels, because the XO is the second in command and performs the functions of CofS, he has a prescribed relationship with the staff if one exists. See Appendix D for a detailed discussion of this role.

5-30. Specific circumstances are particularly important in the role of the second in command. These circumstances are—
- Temporary absence of the commander.
- Succession of command.
- Delegation of authority.
- Deputies of joint or multinational forces.

5-31. *Temporary Absence of the Commander.* The second in command may assume duties when the commander is absent from his place of command for temporary periods, or if he needs rest. The second in command should ensure that the commander gets adequate rest so that lack of sleep does not impair his judgment and creative thinking capabilities. (See FM 6-22.5 for a discussion about the impact of sleep loss on mental capacity.) The commander may also be absent from his place of command, either on or off duty, for temporary periods. In either case, the second in command may assume command temporarily and make decisions that continue operations in accordance with the commander's intent and policies.

5-32. *Succession of Command.* Commanders may be killed, wounded, medically incapacitated, or, for whatever reason, relieved of command. The second in command normally assumes command. XOs at brigade and below normally assume command as the next senior officer in the command. Deputy or assistant commanders may not be senior to subordinate unit commanders. In this case, succession of command could devolve to the second in command until the senior officer assumes command; the operations order may specify succession of command, or the next higher commander may appoint the second in command. AR 600-20 provides statutory guidance for succession of command.

5-33. Because the second in command must assume command at any time, he must always keep abreast of the situation. The commander must keep him informed of his vision and intent. The CofS must continually keep him informed of staff actions. Further, the commander must train his second in command for command at his level.

5-34. *Delegation of Authority.* A commander can delegate authority to the second in command, reducing the burden of his responsibilities and allowing him to focus on particular areas or concerns while the second in command concentrates on others for him. Normally, he delegates authority to the second in command to act in his name for specific fields of interest and responsibility in order to decentralize decision making while maintaining overall command.

5-35. *Deputies Of Joint Or Multinational Forces.* Joint and multinational experience has found that deputy commanders are useful to effective C2. The deputy commander may be from another service or nation where an Army headquarters serves as the headquarters of a joint or multinational force. These deputy commanders may have service or national command authority over forces of their service or nation, and they can serve as important advisers to the Army commander about the forces of their service or nation. They can further ensure understanding between participating services or nations' forces. In this case, succession of command depends on joint and multinational doctrine, law, or international agreement.

TRAINING

5-36. Training tactically and technically competent leaders and teams is a key enabler to effective C2 systems. The best technology cannot support C2 without trained personnel. Digitization can initially add more training than it eliminates. However, using distance learning can reduce training costs.

Training techniques, procedures, and methodologies must evolve and adapt along with doctrine and technology to ensure they remain efficient, effective, and appropriate in developing and sustaining competent leaders and teams.

INFORMATION MANAGEMENT

5-37. IM includes RI and INFOSYS. Because Chapter 3 discusses RI, this section concentrates on INFOSYS as a part of IM.

5-38. Advances in information technology are enhancing changes in IM. First, communications connectivity allows broadcast dissemination of information. This advance incorporates direct downlink of raw data from multiple sensors to multiple echelons simultaneously, and broadcasts processed information from theater or national production agencies to deployed forces. Deployed units can receive information on a push or pull basis.

5-39. Second, IM requires fusing information from a variety of sources, a capability of INFOSYS. Advances in sensors, processors, and communicators provide increased worldwide capabilities for detailed, timely reconnaissance and surveillance. Both military and nonmilitary sources provide information used to produce RI. Open-source information can significantly assist in the production of intelligence or provide a context to the current situation and environment.

INFORMATION SYSTEMS

5-40. INFOSYS are the equipment and facilities that collect, process, store, display, and disseminate information. This includes computers—hardware and software—and communications as well as policies and procedures for their use (FM 3-0). With the integration provided by modern INFOSYS, commanders can achieve higher levels of effectiveness and efficiency in collecting, processing, displaying, storing, and disseminating information. While all BOS have their own INFOSYS, this discussion applies to INFOSYS devoted to C2 and information from other BOS integrated into C2 system INFOSYS. Ultimately, however, effective C2 depends on ensuring that the right person has the RI at the right time.

General

5-41. With the changes in INFOSYS, commanders and staffs can now achieve new levels of effectiveness and efficiency in collecting, processing, displaying, storing, and disseminating information. The primary purpose of INFOSYS is to contribute to achieving information superiority by using and managing information for timely and accurate decision making and execution. INFOSYS allow the commander to view and understand his AO, communicate his intent, and disseminate pertinent information throughout his AO, including to higher, lower, supported, supporting, and adjacent units. INFOSYS directly support C2; however, all other BOS depend on responsive INFOSYS. INFOSYS can simultaneously support current operational deployments and future contingencies. Effective military and nonmilitary INFOSYS help the staff get the right information to the right location in time for effective decisions and actions. The object of INFOSYS technology is to enhance the per

formance of people. When commanders have discovered the efficiencies from digitization of the battlefield, the long-term objective will be to decrease the overall number of people involved. These efficiencies will be possible when commanders and their soldiers determine how to automate and process the massive amount of data required on the battlefield.

5-42. With the exception of face-to-face communication, no C2 system could work without INFOSYS. They directly affect how the commander communicates and how the staff performs IM.

5-43. As the commander depends more on INFOSYS for C2, the force C2 facilities become more attractive for targeting. INFOSYS can become a weak link if the commander does not take appropriate measures to protect them and ensure their readiness.

5-44. Information sharing, possible with modern INFOSYS, supports mutual understanding and promotes unity of effort. When used expeditiously, INFOSYS can give a commander a decisive edge over his opponent by reducing OODA cycles, improving cooperation among combined arms, and synchronizing the BOS.

5-45. Rather than just collecting and processing more data, INFOSYS should minimize the time and effort commanders spend assimilating information and developing understanding. They do this by first improving the processing of data and tools for analysis in creating the COP. Second, they enable the COP to display information as meaningful visual images that directly impart knowledge and further understanding.

5-46. Commanders must ensure that technology serves their needs by enabling mission command. With technological development, equipment that improves the ability to monitor what is happening may also increase the temptation and the means to try to direct action. Equipment that facilitates or encourages detailed C2 of subordinate units may undermine mission command. Moreover, such technological capability tends to fix the senior's attention at a low level of detail. Commanders who focus at too low a level of detail risk losing sight of the overall picture. Consequently, increased capability in equipment brings with it the need for increased understanding and discipline by users. Just because technology allows detailed management does not mean commanders should normally use that capability. For effective mission command, senior commanders must still give the on-scene commander freedom of action to exercise initiative based upon his knowledge of the local situation, understanding of his commanders' intent two levels up, and responsibility to act.

Roles

5-47. With the revolution of information technology, military and nonmilitary INFOSYS combine to provide the commander with a global-reach capability and access to information from a host of sources. INFOSYS provide the infrastructure that allows the Army to manage information and to interface with other sources of information. INFOSYS form the architecture that—

- Supports the commander and staff in decision making.

- Monitors the current situation through the COP to integrate and synchronize operations.
- Coordinates efforts of subordinate, higher, adjacent, supporting, and supported headquarters.
- Coordinates joint support for Army operations.
- Links sensors to shooters and updates weapon systems' targeting parameters.
- Controls decisive, shaping, and sustaining operations as one operation.
- Shapes the AI through support for offensive and defensive IO.

Architecture

5-48. The Army's integrated architecture of advanced INFOSYS maximizes the C2 capabilities of land forces in all operating environments. The primary national warfighting INFOSYS is the joint Global Command and Control System (GCCS), which interfaces with the Army Battle Command System (ABCS). ABCS is the primary Army warfighting INFOSYS and employs a mix of fixed and semifixed installations and mobile networks. It is interoperable with theater and joint C2 systems. It connects directly to GCCS and provides seamless C2 system connectivity from the platform and soldier level to corps. It provides connectivity to combat information databases and processes information.

5-49. ABCS is a composite of INFOSYS that provides the commander an integrated and shared COP of the battlespace relevant to the mission, purpose, or task of each echelon. ABCS integrates information from its systems as well as other existing systems to provide quality information to the commander and allow connectivity with the sister services, the joint commands, and allied forces.

5-50. ABCS consists of 11 systems that it integrates into a coherent, seamless infrastructure at all echelons of our Army from battalion through operational and strategic levels. These systems consist of the following:

- Global Command and Control System-Army (GCCS-A) provides an integrated and automated C2 system for Army strategic and theater commanders; to corps; and to divisions when they perform task force or ASCC responsibilities in support of Joint operations.
- Maneuver Control System (MCS) is the primary battle command source, providing the COP, decision aids, and overlay capabilities to support the tactical commander and the staff via interface with the force-level information data provided by the other ABCS systems.
- Force XXI Battle Command Brigade and Below (FBCB2) provides integrated, on-the-move, and timely battle command information to tactical combat, combat support and combat service support leaders and soldiers.
- Combat Service Support Control System (CSSCS) provides quality automated CSS information to include all classes of supply, field services, maintenance, medical, personnel, and movements to CSS and maneuver and/or Army Service Component Commanders (ASCC) as well as their logistic and special staffs.

- Advanced Field Artillery Tactical Data System (AFATADS) provides a fully integrated FS C2 system, giving the FS coordinator automated support for the planning, coordination, control, and execution of close support, counterfire, interdiction, and suppression of enemy air defenses fires.
- Air and Missile Defense Planning and Control System (AMDPCS), including the Air and Missile Defense Work Station (AMDWS), integrates AD fire units, sensors and C2 centers into a coherent system capable of defeating/denying the aerial threat (Unmanned Aerial Vehicles (UAV), helicopters, fixed wing, and others).
- Tactical Airspace Integration System (TAIS).
- All Source Analysis System (ASAS) consists of evolutionary modules that perform system operations management; system security; collection management; intelligence processing and reporting; high-value/high-payoff target processing and nominations; and communications processing and interfacing.
- Integrated Meteorological System (IMETS) provides general weather forecasting, severe weather warnings, and weather effects analysis for the commander and staff to support mission planning and execution.
- Digital Topographic Support System (DTSS) provides tactical and operational commanders with geospatial information to support terrain and environment parts of the commander's visualization.
- Integrated System Control (ISYSCON) provides integrated technical system control for the integrated ABCS systems.

5-51. **Integration**. Integrating INFOSYS—both vertically and horizontally—facilitates tactical and operational success in joint and multinational operations. Global connectivity is essential for linking strategic, operational, and tactical aspects of IM and the ability to project forces worldwide. The command's command, control, communications, and computer operations (C4 Ops) officer integrates nonmilitary equipment and software used throughout the AO. Planners must ensure the deployed INFOSYS implement open, non-proprietary, commonly accepted standards and protocols to interface with nonmilitary systems. Of the ABCS systems, GCCS-A, MCS, and FBCB2 are integrating systems.

5-52. **Computers**. Computers manage information within the C2 system, support decision making, and disseminate execution information. Computers consist of hardware and software. Despite the widespread use of computers, there are two dangers with their use. One is overreliance on technology; the second is not using technological capabilities. Those using INFOSYS must strike a balance to get the most out of the equipment while integrating technology properly with the other components of the C2 system.

5-53. Modern computers open new options to support military decision making. They provide faster, higher-quality data vertically and horizontally to a commander. Additionally, the number of options, branches, and sequels a commander can potentially envision increases in quality, quantity, and depth. This capability can lead to a situation in which the friendly commander always has more and better options for anticipated or unanticipated situations than his enemy. With computers performing many manual activities of an

analog TOC, commanders and staffs can shift their time and mental energy from lower-order thinking skills to higher-order thinking skills of transforming information into knowledge and understanding. Having a clear, thorough, and accurate picture of the current state allows them to visualize the likely future states and proactively develop options to respond rather than react to events as they unfold. By reducing and managing uncertainty, these computers increase agility, synergy, and initiative of forces in operations. They also allow forces to increase lethality at decisive locations and times, increasing tempo and reducing the cost of victory.

5-54. **Communications**. Communication is the principal interaction between commanders and those who influence or execute their decisions. Communications in modern INFOSYS provide the commander with near real-time information that is adaptable and responsive to his requirements. There are four principal means of communications: personal contact; contact between representatives of commanders; document transfer; and data exchange.

- Personal Contact. This is the most productive method but also the most time-consuming. Commanders want to brief subordinates face to face to ensure that they understand their intent and to sort out any issues. Face-to-face meetings are particularly important and effective in fostering trust and mutual understanding in a multinational context. They take place more frequently in multinational than in national operations.

  - Voice Communications (including telephones, combat net radio (CNR), trunk communications, and satellite communications). Voice continues to be a principal method of executing command. Commanders can transmit and explain intent best by voice. In addition, voice is the only method of communication at all levels of command that permits the commander to project personal willpower and inspiration at a distance during the progress of an operation, particularly if that operation is fast-moving and precludes face-to-face contact. Such communications help maintain the tempo of operations.

  - Video Teleconferencing. Video teleconferencing is an effective way to communicate intent and commitment. Facial expression and body language convey information. Video teleconferencing extends face-to-face contact between commanders and subordinates electronically. It currently requires large bandwidths to convey subtle nuances.

- Liaison Officers (LNOs). LNOs and teams not only convey information but also context by interpreting and explaining information. The LNO understands the operational environment. He should be proactive and know the mind of the commander he represents and the commander with whom he establishes liaison. LNOs may be limited if dispersion overstretches communications or distances preclude travelling. Vertical liaison is normally required between organizations of different nations and anytime a command works for a headquarters other than its organic headquarters. Horizontal liaison takes place between all adjacent

units of different nations and across unit boundaries, even if the boundary divides units of the same nation. See Appendix E.

- Document Transfer. Document transfer can take place by courier, postal service, and facsimile. The commander may use a courier when all else fails or when the person conveying the document is acting as a liaison officer. The commander may select postal services when time and service are available. Facsimile is flexible and reliable where small documents such as notes, sketches, and small overlays are concerned; however, it is not an efficient means of passing information.
- Data Exchange. Data exchange facilitates far greater communication, although there are constraints associated with using it. It is particularly difficult to convey intent, and it is bandwidth-intensive. INFOSYS can complement voice orders by improving the transfer of coordinating information and graphic overlays. Data exchange includes formal record traffic (joint message text), informal record traffic (facsimile and electronic mail), database-to-database transfer, and POS/NAV data.

5-55. While all these methods remain useful for the future, voice traffic and data distribution remain the primary methods of passing information. From an operational point of view, face-to-face contacts or exchanging liaison officers assures the commander that his intent and assessment is correctly understood. Redundant methods of communications ensure that the designated recipient receives the information.

5-56. Fixed-message formats help standardize information in all four means. Formatted messages define the contents closely and minimize using free text. Both the sending and receiving systems can process such messages automatically. Currently FM 6-99.2 provides a set of standard message formats. While not all messages in FM 6-99.2 are relevant in all Army units; the intent is that units use the messages relevant to their unit when constructing unit SOPs.

5-57. The use of IO by friendly or enemy forces affects communications. Close coordination between all staff sections is necessary to reduce the effects of friendly IO on communications. This includes the impact of imposing a restrictive emission control (EMCON) state for deception or operations security (OPSEC). Defensive IO should always be an important part of the planning process. FM 3-13 discusses IO doctrine.

INFOSYS AND INFORMATION MANAGEMENT ACTIVITIES

5-58. INFOSYS are critical to the effective functioning of IM activities already discussed in Chapter 3. This section discusses INFOSYS contribution to each of the IM activities.

5-59. Currently intelligence officers, plans officers, and operations officers (battle captains or watch officers) who traditionally focus on the friendly and adversary military situation typically perform these information system activities. Specific IM personnel, combined with special training for all C2 system personnel, conduct the dynamic oversight necessary to meet the RI requirements of leaders at all levels of command. As technical capabilities improve, different echelons can use them with new procedures to perform reach, in intelligence or CSS, among others. They perform this reach from their

units to another unit or organization that has more expertise or specific information and intelligence that meets the requesting unit's requirements.

Collect

5-60. INFOSYS collect RI that answers information requirements. Exploiting the information environment, intelligence, surveillance, and reconnaissance (ISR) assets, and reports and messages from friendly forces constitute the primary means used to collect information with INFOSYS. While ISR assets are forms of INFOSYS, they support developing intelligence about the enemy and environment. As such, ISR are part of the intelligence operating system rather than C2 directly, and will not be discussed further. The intelligence BOS provides intelligence as RI.

5-61. Modern INFOSYS give access to information available through the Internet and joint and multinational sources. They increase the system's capacity to monitor more sources over a wider area for a longer time. The improved processing capabilities of modern INFOSYS allow greater capacity and speed of collection to increase the timeliness and accuracy of the COP. The versatility of many INFOSYS allows the commander to tailor collection specifically on RI and shift collection efforts as priorities shift.

Process

5-62. INFOSYS can automate the mechanical aspects and routine functions of processing that machines can do more efficiently than people can. This frees soldiers to concentrate on higher-level tasks (analyzing and evaluating) specifically requiring human cognition and judgment to recognize opportunities, threats, and gaps in information. Automation has made great advances in information processing, but human beings remain the most effective system for determining relevance and fusing information. Technology may even assist in these uniquely human activities, but cannot replace humans. INFOSYS should minimize the manual input of data into the COP in two ways. First, much data should enter the system directly, through sensors. Second, data should only be entered once, at its origin. Shared databases should then make it available electronically at all headquarters. INFOSYS automation of processing can speed and improve the frequency and quality of the staff's continuous estimates for assessing.

5-63. INFOSYS provide decision aids and functionality that can leverage data and information to provide expanded capability to support decisions during the entire operations process. During planning, INFOSYS can help establish a COP that leads to situational understanding for decision making. Mission planning and rehearsal tools provide improved resolution, precision, and accuracy on the essential task of visualization. The degree to which INFOSYS allow the commander to develop his visualization quickly increases the tempo of operations. In mission analysis, INFOSYS provide the status of available assets. They facilitate situational understanding and provide tools to assist in COA development, analysis, and comparison. INFOSYS enable the commander, staff, and subordinates to plan operations collaboratively and allow more time to rehearse the mission before execution. Following the commander's decision, INFOSYS support the staff in producing and transmitting the order.

5-64. During preparation, INFOSYS allow commanders and staffs to revise and refine the plan rapidly. The staff can conduct more coordination and liaison electronically through INFOSYS, which allow for a higher-quality rehearsal based on information developed during wargaming. Units can crosswalk their orders electronically rather than manually. INFOSYS also provide timely information on the progress of task organization, movements, precombat checks and inspections, and logistics preparations.

5-65. During execution, INFOSYS can assess variances between expectations during planning and outcomes during executing (based on real-time information), analyze their significance, whether positive or negative, and analyze possible actions to solve or exploit the situation. INFOSYS support development and analysis of decisions for keeping the operation on track or exploiting opportunities. They allow resynchronization of actions and effects in accord with the new decision. This capability for rapid resynchronization reduces one impediment to changing a COA during execution: the risk of failure or defeat from loss of synchronization caused by a change in the plan.

Display

5-66. Effective INFOSYS support the presentation of information in a form required and desired by the commander. Modern INFOSYS have created new techniques for displaying data as information. These include imagery, video, color graphics and digital overlays, mapping, and database technology. INFOSYS allow tailorable displays to suit mission needs that are scalable to the commander's requirements based on his echelon of command. These INFOSYS allow displays that update dynamically and automatically to highlight variances between the plan and its execution. They allow the commander to recognize key elements—opportunities, threats, and gaps in information—of the situation and the relationships among them immediately, assess the implications, and recognize an acceptable decision to respond to the situation.

Store

5-67. Storing information by INFOSYS includes hardware and software for entering data into the storage device and retrieving it as needed. These databases are no longer located in one place or on one machine. Modern INFOSYS software allows data on multiple machines to combine into one shared, distributed database. They allow user-scalable profiles and search engines to combine information from multiple databases to answer the commander's and organization's information needs.

Disseminate

5-68. Modern INFOSYS have their own capability to disseminate information. While this capability comprises communications, it is literally an embedded part of the hardware and software of computers. This is evident in database-to-database information transfers now entering the force. This transfer is inherently flexible and provides the capacity for managing large amounts of information and disseminating it throughout the AO. INFOSYS enable dissemination through communications that—

- *Digitize, compress*, and *broadcast* multimedia information using increased bandwidth, high-efficiency transport systems.
- *Encrypt* and *provide* multilevel information security.
- *Manage* information networks with "smart" software that dynamically allocates throughput capacity on demand and then routes and disseminates information.

5-69. The Army also relies on some nonmilitary INFOSYS not under its control for dissemination. These means include—

- US and host nation public service networks (PSNs) and postal and telegraph systems.
- Commercial communications satellite systems.
- Commercial GPS receivers.
- Commercially developed software applications.
- Commercial international news media.
- Public-accessed databases and bulletin boards.

5-70. These nonmilitary INFOSYS offer an alternative to military means, but only after carefully assessing the security risks. Using nonmilitary INFOSYS may also reduce the requirement for deployed military INFOSYS. Using a nonmilitary system allows planners to compensate for system shortages and to meet the surge of information requirements in the early stages of deployment.

I will only invite your attention to the fact that a necessary preliminary for the musician is a painstaking practice of scales before he reaches the point of making music. Exact forms for orders and annexes, road spaces, systems of abbreviations, symbols for troop units, headquarters, dumps, etc., frontages, formations for attack and defense - estimates of the situation, and a multitude of similar matters of technique, are to the officer what scales and similar exercises are to the musician. Exactitude is required in each exercise until the correct methods become automatic. That is the sort of training you are now undergoing. Later you will be in a position to add or subtract, to amend, or even to depart rather completely from the methods you have learnt [sic], but not until you have thoroughly mastered the elementary technique.

George C. Marshall

PROCEDURES

5-71. Procedures are standard and detailed steps that describe how to perform tasks. A procedure begins with an event and results in a product, which may be the initiating event for another procedure. There are two levels of procedure within the C2 system discussed below: doctrinal procedures and SOPs.

5-72. Procedures can be a source of organizational competence—by improving a staff's efficiency or by increasing the tempo of the operations process. Procedures can be especially useful in improving the coordination of several sol

diers who must cooperate to accomplish repetitive tasks—such as the internal functioning of a command post. Using solid procedures can mitigate the difficult characteristics of land force operations discussed in Chapter 1 so that the COP (which is based on friendly unit reporting transmitted through several layers) is not inaccurate or misinterpreted at lower levels. However, procedures can also have the opposite effect. Applied blindly to the wrong tasks or the wrong situations, they can lead to ineffective, even counterproductive, performance.

5-73. Procedures apply only to rote or mechanical tasks. They are not thinking activities. The purpose of procedures is to free human analysis and judgment for tasks that only humans can perform. The commander and staff must use, modify, or discard procedures as the situation requires; they are not rules to follow automatically. Procedures form the basis for automation in INFOSYS but present a challenge in that automation must not drive the C2 system. The commander must continue to drive the C2 system, and that system must remain sufficiently flexible to respond to changes directed by the commander.

5-74. The commander should design or use C2 procedures for simplicity and speed. They should be simple to perform quickly and smoothly under conditions of extreme stress, and speedy enough to generate tempo. Streamlined staff-planning sequences are preferable to deliberate, elaborate ones. Procedures should be compressible when time is short—which it is frequently on operations. As German General Hermann Balck said to his staff in World War II: "Don't work hard, work fast."

5-75. Commanders establish procedures to streamline operations and help integrate new people and attachments. Usually spelled out in unit SOP, procedures also aid in making decisions occur faster by providing required information in a standard, easy-to-understand format. Procedures describe routine actions, thus eliminating repetitive decisions, such as where to put people in a TOC, how to set up a TOC, and march formations.

5-76. Procedures serve when people become unable to perform their duties. Subordinates can step in and use established procedures to continue to operate. When people are tired or stressed, their decision making capability is first to deteriorate (physical actions endure longer). SOP help individuals and units accomplish many tasks by routine.

5-77. Established procedures do not cover every situation that may arise. It is impossible to think of every possible activity for procedures, or to include them in doctrinal procedures or SOP. Situations may arise that require systematic activity for a solution. When the commander can translate that activity relatively easily into procedures, he must do so. The commander may evaluate whether the probability or impact of a recurrence of the event is sufficient to warrant the developed (or improved) procedure into the SOP or doctrine.

DOCTRINAL PROCEDURES

5-78. While some Army doctrine may be prescriptive and mandatory throughout the Army, it normally sets basic principles and functions along with approaches and methods for generating combat power. Doctrine estab

lishes guidance on procedures for problem solving and communicates the wisdom and judgment derived from past operations to the field. They constitute the starting point for developing procedures for specific units, places, and threats. Doctrinal procedures cannot be applied absolutely without interpretation to account for the specifics of a given situation.

5-79. Doctrinal procedures, such as the MDMP, exist for exercising C2. These procedures exist throughout the operations process. They are mentioned in Chapter 6 and discussed in the appropriate FMs. Doctrinal procedures provide the basis for more detailed procedures developed in unit SOP.

UNIT STANDING OPERATING PROCEDURES

5-80. SOP detail how to apply doctrine within a specific unit; they may also be adapted in a given location for a given threat. They standardize unit-level techniques and procedures to enhance effectiveness and flexibility. As the name implies, SOP standardize routine or recurring actions not needing the commander's personal involvement. In many cases, these are routine events. However, SOP may also include rare or abnormal events that could cause mission failure. SOP regulate operations within and among the elements of the C2 system, and they allow internal and external elements to communicate with one another based on shared expectations.

5-81. SOP reduce the number of instructions the commander or his staff need to address on operations. They provide a common base of understanding for the staff and subordinate commanders so everybody knows how to execute routine events. Finally, SOP serve as a starting point for new personnel to learn the routine of the organization. The unit develops SOP from doctrinal sources, applicable portions of the higher headquarters' published procedures, the commander's guidance, and techniques and procedures acquired from experience.

5-82. SOP cover the majority of routine tasks; they should not be too difficult to understand or take too long to read or learn. A good way to check a procedure is to give it to a junior enlisted soldier and a junior officer and see if they understand and remember the information. In general, SOP apply until commanders change them to meet altered conditions or practices. Benefits of SOP include the following:
- Simplified, brief combat orders.
- Enhanced mutual understanding and teamwork among commanders, staffs, and troops.
- Established synchronized staff drills.
- Established, abbreviated, or accelerated decision making techniques.

EQUIPMENT AND FACILITIES

5-83. Equipment and facilities include all equipment not found in INFOSYS. The facilities and equipment must meet several administrative requirements, including the physiological needs of personnel—shelter, rest, sanitation, food, and water. They must also have internal communications, light and power, and collective mobility.

EQUIPMENT

5-84. The C2 system cannot operate without sustainment and maintenance of personnel and equipment. Examples of sustainment equipment, either dedicated or as needed, include transportation, maintenance assets, shelter, medical support, and supplies for soldiers and equipment. At lower tactical levels, equipment that sustains the C2 system does not belong solely to the C2 system, but to the unit as a whole. However, part of the justification for equipment is its support of the C2 system. At higher tactical levels, equipment sustaining the C2 system is usually dedicated as part of the headquarters and headquarters unit.

FACILITIES

5-85. **Facilities are structures or equipment providing a work environment.** While the unit TOE normally prescribes the facilities of the C2 system, they may also consist of civilian structures and joint platforms (aircraft, ships, or boats). Army C2 facilities are not necessarily restricted to land. The C2 facilities prescribed by TOE for Army forces on operations may vary widely from unit to unit: tentage; armored vehicles; tactical vehicles, vans and trailers; or a combination of these. Facilities provide for a number of functions:

- *Protection*. Facilities provide the commander and staff a protected environment (shelter and light discipline and NBC protection) for them to work. They protect C2 equipment from the environment.
- *Focus*. Facilities serve as a focal point—a place the commander and staff can view all the information they need for C2 and a place where subordinate commanders can get information. This aspect may diminish in importance with distributed C2 systems and tactical Internet.
- *Face-to-Face Meetings*. Facilities provide a place for face-to-face meetings. These are especially important in stability operations and support operations for press conferences. Video teleconferencing may replace some actual meetings, but it remains critical for a commander to see his subordinates and read their body language, which is missing in digital communications.
- *Information Display*. Facilities display information not only for the commander and his staff (primary purpose), but also for public consumption through the press.

ORGANIZATION FOR COMMAND AND CONTROL

5-86. Organization is an important C2 tool. How a commander organizes can complicate or simplify the problems of execution. To organize effectively, a commander must know and apply the fundamentals and principles of organization for C2, how to organize the staff, and how to organize for continuous C2. The basic C2 organization in the US Army is the *command post*.

FUNDAMENTALS OF ORGANIZATION

5-87. Organizational decisions establish the chain of command (command and support relationships) and task organization and impact directly on C2.

They can influence where a commander gets his facts, whom he relies on for advice, and how he ensures execution of his decisions. Organizational decisions affect the structure of the flow of advice to the commander about what actions to take when making operational decisions. In large part, organization establishes formal communication channels and determines how the commander distributes information throughout the force.

5-88. Organization serves an important function of providing sources of group identity for members of the organization. An organization operates most effectively when its members think of themselves as belonging to one or more groups characterized by high levels of loyalty, cooperation, morale, and commitment to the group mission.

5-89. Information may flow vertically within the chain of command, but organization should not restrict its flow to the chain of command. Information also flows laterally between adjacent, supported, and supporting units. Information flows informally and unofficially—between individuals according to personal relationships—as well as according to formally established channels. These informal channels provide an important redundancy and are especially important in team building.

Command and Support Relationships

5-90. Establishing clear command and support relationships is fundamental in organizing for all operations. These relationships can achieve clear responsibilities and authorities among subordinate and supporting units. Some forces available to a commander are given command or support relationships that limit his authority to prescribe additional relationships. By knowing the inherent responsibilities of each command and support relationship, a commander may still organize his force to establish clear relationships. FMs 3-0 and 5-0 describe command and support relationships and their inherent responsibilities for the US Army.

5-91. The commander designates command and support relationships within his authority to weight the decisive operation and support his scheme of maneuver. Task organization also helps subordinate and supporting commanders understand their role in the operation and support the commander's intent. Command and support relationships carry with them varying responsibilities to the subordinate unit by the parent and the gaining units. Commanders should consider these responsibilities in establishing command and support relationships.

5-92. Commanders can expect that contractors will be involved in future Army operations. Their management and control differs from the C2 of soldiers and Department of the Army civilians (DACs). The terms and conditions of the contract establish the relationship between the military and the contractor, which extends only through the contractor supervisor managing his employees and the military chain of command exercising management control through the contract. Only the contractor can directly supervise contract personnel. Commanders make provisions during planning for contractor management to employ contractors effectively during operations. Other specific considerations are in FM 3-100.21.

5-93. When Army forces operate in a joint or multinational environment, command and support relationships may be less defined and more open to interpretation. In some international organizations, NATO for example, command and support relationship terms the Army uses may have different meanings, and other terms for command and support relationships may exist. For example, the NATO definitions of OPCON and TACON are not the same as US Army definitions. In such cases, the Army commander may seek clarification from his superior or from written documents concerning specific authority and limitations. He must identify and use the agreed command and support relationships, just as he would Army command and support relationships.

Allocating Resources

5-94. Mission command requires that a commander have authority over or access to all resources required to accomplish the mission. Accordingly, a commander must organize material resources as well as forces when making organizational decisions. This organization of resources may be implicit in the command and support relationships established, or it may differ in whole or in part from those relationships, such as in establishing various priorities—of fire, work, or sustainment. In either case, organizing resources must not violate unity of command and should support unity of effort. Further, this organization or allocation of resources should have minimum restrictions on their use to allow reallocation or to employ as the tactical situation requires.

PRINCIPLES OF ORGANIZATION

5-95. Organization of C2 should aim to create unity of command, reasonable spans of control, cohesive mission teams, and effective information distribution. Organization, both in peace and war, starts with the chain of command.

The Chain of Command

5-96. The chain of command establishes authority and responsibility in an unbroken succession from one commander to another. The commander at each level responds to orders from a higher commander and, in turn, issues orders to subordinates. In this way, the chain of command fixes responsibility and bestows authority at each level, while at the same time distributing them broadly throughout the force. Each commander has designated authority and responsibility in a given sphere. Command and support relationships specify the type and degree of authority one commander has over another, and the type and degree of support one commander provides another. However, support relationships do not establish a chain of command. Some command relationships only affect employment. FM 6-22 further discusses the chain of command.

5-97. Strict adherence to a clearly defined chain of command is the best policy in all but exceptional circumstances; however, commanders must remain flexible. Circumstances might require them to operate temporarily outside their chain of command. The need for timely decision and action may require a commander to provide information to or receive information from different levels of command simultaneously rather than sending it sequentially through the normal chain of command. Likewise, the loss of communications

with higher headquarters, coupled with established communications with another headquarters, may cause temporary subordination to the second headquarters. In this case, the commander should contact the common superior of both headquarters to confirm the temporary subordination or to reestablish communications with the parent headquarters for the subordinate unit.

Span of Control

5-98. Organization should ensure reasonable span of control, which refers to the number of subordinates or activities under a single commander. A commander's span of control should not exceed his capability to command effectively. The optimal number of subordinates is situation-dependent. Generally, commanders exercising detailed command requiring them to pay close attention to the operations of each subordinate element have narrower spans of control than commanders who use mission control. The more fluid and fast-changing the situation, the fewer subordinate elements a commander can supervise closely. In such situations, a commander must either receive fewer units or use the principles of mission command. For looser control over more units, he should let his subordinates work out the details of execution.

5-99. Although the span of control varies with the situation, a commander can effectively command two to five subordinates. Within this situation-dependent range, a greater number of subordinates allows greater flexibility, and increases options and combinations. As the number increases, the commander, at some point, loses the ability to effectively consider each unit individually and begins to think of the units as a single, inflexible mass. At this point, the only way to reintroduce flexibility is to group elements into a smaller number of parts, creating another echelon of command.

5-100. Narrowing the span of control—that is, lessening the number of immediate subordinates—deepens the organization by adding layers of command. The more layers of command in an organization, the longer it takes for information to move up or down. Consequently, the organization becomes slower and less responsive. Conversely, an effort to increase tempo by eliminating echelons of command or "flattening" an organization necessitates widening the span of control. The commander has to find the balance between width and depth, so that the organization is suited to the particular situation. The aim is to flatten the organization to the extent compatible with reasonable spans of control.

5-101. Using technology, particularly modern communications systems and IM techniques, may make it appear possible to widen spans of control. Because command is primarily a human function, technological considerations should not be the only criteria to determine optimum spans of control. Traditionally, the effective span of control was limited by the amount of traffic someone could monitor on the net, the effectiveness of disseminating that information, and the ability of a commander to supervise (oversee) subordinate unit operations.

5-102. With digital systems, a commander and his staff can effectively disseminate and receive information from far more sources. However, the ability of the commander and his staff has not changed. Humans, commanders included, can only process or focus on so many critical matters at one time. The

nature of military operations is such that most, if not all, subordinate units in an organization will be in near-crisis many times and need the commander's attention even if he only monitors their performance. If he has more forces than he can cognitively keep separate, the human tendency is to aggregate them, either formally through task organization or informally in his mind. Modern INFOSYS enable many civilian organizations to flatten their management structure. This allows them to eliminate layers of management within the organizational hierarchy. The danger, fog, and friction endemic in military operations, combined with the need for on-scene leadership at multiple critical points, dictate care when applying this technology to military organizations.

5-103. Commanders must establish task organizations that enable them and their subordinate commanders to command without information overload. The span of control, and the ABCS systems' provisions for continuity of operations, should ensure that in the event of an attack on the C2 system, the commander is not left with a large number of units and a manual system to deal with all of them.

Unit Integrity

5-104. Mission command requires self-reliant task groups capable of acting semiautonomously. Task organizing into these self-reliant task groups increases each commander's freedom of action and decreases the need for centralized coordination of support. Commanders should take a flexible approach to organization, maintaining the capability to task organize forces to suit the situation. This capability might include creating nonstandard and temporary task groupings. However, the commander must reconcile this desire for organizational flexibility with the need to create implicit understanding and mutual trust, which familiarity and stable working relationships produce.

5-105. One way to balance these demands is to observe unit integrity in organizing for C2. There are two dimensions to unit integrity under mission command:

- Commanders should organize task forces based on standing headquarters, their assigned forces, and habitually associated slice elements. Where this is not feasible and *ad hoc* organizations are formed, commanders should allow time for training and establishing functional working relationships and procedures.
- Once commanders have organized and committed a force, they should not change it during operations unless the benefits of a change clearly outweigh the disadvantages. Subsequent reorganizations may cost time, effort, and loss of tempo. In fact, logistics considerations may prelude quick reorganization.

Subordinate Commanders

5-106. A commander directs subordinate commanders rather than individual subordinate units, letting those commanders direct their units. In turn, mission command absolutely depends on those subordinate commanders to make decisions using initiative within their commander's intent. A commander must select and develop subordinates he has confidence in and trusts. Moreover, developing subordinates should include their familiarity with his style of

implementing mission command. Commanders must recognize that they can accept less than perfect solutions by their subordinates if they make them rapidly and decisively within the context of the commander's intent and keep him informed of their solutions.

5-107. Maintaining the high tempo of operations to retain the initiative requires many decisions at each level of command simultaneously. These factors place a premium on intelligent delegating of decision making and executing authority rather than on centralization. There are three reasons for prudently delegating authority to subordinate commanders. First, each decision maker can only process so much information in a given period of time, and most can only focus on one issue at a time. Second, while decision makers and their staffs deal with some decisions, potent capabilities for action remain idle if the commander does not delegate authority for action. Third, the meaning of new and unexpected information is not recognized and acted on. The relevance of new facts decomposes rapidly with time, and a competent enemy ensures that any signatures he emits are short. Therefore, opportunities for employing subordinate formations in ways other than expected open and close irregularly.

5-108. While information technologies facilitate control functions, they do not accommodate command functions as readily, especially in times of high stress and great uncertainty, such as combat. Information technologies make it possible to monitor and control more subordinate elements and track and redistribute priorities for a wider array of functions and commodity resources. When decisions need to be made rapidly on less than perfect information and subordinate commanders need the positive motivation of a commander's attention, the commander needs to have fewer subordinate elements and fewer functional areas. Moreover, much flattening during peacetime is possible because subordinate elements do not need attention at the same time at the same level of detail. However, during operations, most subordinate commanders and their operations may need attention at the same time.

COMMAND POST

5-109. The CP is the basic organization of the unit headquarters that US Army doctrine prescribes for exercising C2 during operations. Headquarters have existed throughout military history in this role. Certainly, the Roman legion had a well-documented headquarters, including all elements of what we now call a C2 system. Later, Napoleon recognized that a headquarters which provided the planning and analytic capability for a campaign was too large to use in battle. He exercised C2 on the battlefield through a smaller grouping brought from the headquarters, but with communications to the larger headquarters for coordinating and planning. By World War II, US Army doctrine clearly specified dividing an organization's headquarters during operations into two echelons: forward and rear. That doctrine named the forward echelon the command post. Certain principles of organizing the command post today—echelonment, mobility, survivability, and redundancy—already existed in this doctrine.

DEFINITION

5-110. A command post is a unit's headquarters where the commander and staff perform their activities during operations. It is often divided into echelons (JP 1-02). The CP is the principal facility employed by the commander to control combat operations. The commander exercises C2 over the force through and with the CP regardless of his location. He may personally control the battle from other locations on the battlefield and is normally only present at the CP to receive information or briefings.

PURPOSE

5-111. The CP provides a facility for exercising C2. It is organized flexibly to meet the changing situations and requirements of a specific operation or action. CPs process and disseminate information and orders. They sustain the operation or action through continuity, planning, and coordinating the BOS. The CP's primary products are information for the commander and staff to support situational understanding and execution information for subordinate and supporting units. The goal is to enable the commander to make and the force to execute decisions faster than the enemy (developing greater tempo than the enemy).

FUNCTIONS

5-112. Most functions performed in a CP directly relate to assessing and directing the ongoing operation, planning future operations or actions, or supporting the force. CP functions provide both types of information: the COP and execution information. CP functions that directly contribute to these tasks include the following:

- Developing and disseminating orders.
- IM.
- Submitting staff recommendations for decisions.
- Controlling operations.
    - Directing and regulating actions.
    - Performing critical ongoing functions of execution (listed in Chapter 6).
- Assessing operations.
- CP administration.
    - Displacing CPs.
    - Providing CP security.
    - Organizing the TOC for operations.
    - Maintaining continuity of operations.

ORGANIZATION

5-113. In addition to the design and organizational considerations listed earlier in this chapter, the following affect how the unit organizes its CPs:

- Balance missions, tasks, and resources. The commander considers what to do, and organizes and allocates sufficient resources to each element,

including C2. The efficiency and effectiveness of the commander and staff are important concerns.

- Establish functional responsibilities and authority. Functional grouping of staff sections, or elements of staff sections, promotes efficiency and coordination. When the CP is echeloned, the commander must clearly define the authority of each echelon, usually in SOP.
- Echelon more than one C2 element to allow the commander greater effectiveness and efficiency. This redundancy enables him to move freely while maintaining C2 and makes his presence felt over a wider area. Echeloning CPs depends on good, continuous communications.
- Maintain communications to all nodes during displacements.
- The commander must organize and train his CP to do in peacetime what is required in combat, not what is convenient or expedient.

CONTINUITY OF COMMAND AND CONTROL

5-114. The organization that commanders establish should provide continuity of command. Continuity of C2 establishes continuity in conducting functions, tasks, or duties. It includes the functions and duties of the commander, as well as the supporting functions and duties of the staff. Continuity implies duration over time as well as extension over the entire AO. FM 6-22.5 discusses the importance of continuous operations over time.

5-115. Continuity has two requirements. The first is to have a properly designated commander available to exercise the authority of command. The second requirement is to organize the C2 system so that the commander may exercise that authority continuously. These requirements are usually met by external communications. Continuity depends on the location and echelonment of alternate and redundant facilities, and on managing time for transitions and mitigating the effects of sleep deprivation. The commander must train the unit during peace, including succession of command, transfer of control among facilities, continuous operations, and transitions during fast-paced operations to achieve continuity.

LOCATION AND ECHELONMENT

5-116. The headquarters may attain continuity through related considerations of echelonment and location. Echeloning C2 elements places the minimum resources for C2 functions forward, while keeping more elaborate facilities farther from enemy detection and attack. Echeloning adds redundancy to communications within the force and with other forces. Location can serve to increase the survivability of the C2 system by making enemy detection and attack more difficult and by making C2 systems harder.

TIME MANAGEMENT

5-117. Time management plays an especially important role in continuity of command and control. First, time management allows continuity in operations tempo. Effective time management includes anticipating reaction times by friendly and enemy forces, making decisions, and disseminating orders in time for formations to react within the operation to seize or maintain the ini

tiative to maintain or increase the tempo. It also prevents forces from prematurely executing a decision, which results in an unplanned (excessive, incorrect, non-optimum) force concentration at the wrong place and time that could adversely affect the operational tempo. While these considerations are more relevant to higher tactical levels whose subordinate formations require more time to initiate and complete tasks, low-level commanders must also use time management to orchestrate the concentration of effects on the enemy in time and space.

5-118. Time management requires planning and organizing the availability of soldiers, equipment, communications, and facilities so that necessary elements are available to provide C2 support 24 hours a day for extended periods. In particular, this affects organizing personnel for 24-hour operations. Manning the C2 system must meet anticipated requirements, provide a "surge" capability for unanticipated requirements, and mitigate the effects of sleep deprivation on personnel, including commanders.

CONCLUSION

5-119. C2 systems are in a period of transition. The ABCS will gradually assist commanders in exercising C2 more effectively. Army headquarters down to platform level will use them—a platform can vary from the soldier (when configured with Land Warrior) to major weapon systems. They will provide commanders critical tactical, operational, and strategic (theater, national, and multinational) COP information and decision making tools to respond to the rapidly changing situation in the AO. Future ABCS will allow the commander to see and understand the battlefield by providing specific knowledge of METT-TC. All leaders will have access to a COP of the battlespace, scaled to their level of interest and tailored to their special needs. Simultaneously, commanders at the same echelon may share a perspective of their position in relation to adjacent units. Maneuver, combat support, and combat service support leaders, horizontally and vertically linked by common information, will have support for their visualization of how they execute in harmony, integrated by a shared picture of the battlespace from platform to EAC. Battle command will rapidly change from a sequential, staff-centered and planning-focused environment to a commander-centered and execution-focused one. An integrated database will provide a COP to the entire organization at all echelons, accessible on the move, throughout the battlefield, and in near real time that supports shared understanding of the battlespace. This shared COP will facilitate COA development and adjustment. This capability will allow the warfighter to adjust to the dynamic environment of battle, taking advantage of opportunities and responding to threats as they arise. This enhanced decision making process is simultaneous rather than sequential in nature.

5-120. Digitization will increase the unit's capacity to share data between commanders and staffs. Common understanding of the mission will facilitate integrating and synchronizing the plans. Collaborative planning will provide the commander a horizontal and virtual picture of the battlefield, to include voice, data, graphics, imagery, and video information. This construct facilitates operations planning within the division. Army units will be able to ad

just execution on the fly, mitigating the traditional planning regimen of the past.

5-121. By design, the commander must fully integrate various elements of the C2 system to support exercising C2. Moreover, they are interrelated, as the role and functions of each element depend on and influence the other elements of the system. For example, INFOSYS influence how personnel perform procedures. In turn, procedures, equipment, and personnel influence the design of facilities, while the design and location of facilities affect a commander's ability to control his unit. Ultimately, what, not how, is more important to the commander. To integrate it all, he organizes for C2 and provides continuity of C2. Exercising C2 is the subject of the next chapter.

Chapter 6

Exercising Command and Control

The great end of [military operations] is not knowledge, but action.

Paraphrased from T.H. Huxley

This chapter discusses exercising command and control (C2) throughout the operations process of planning, preparing, executing, and assessing. The commander uses visualization as his process for assessing. The staff officers use staff estimates—developed in planning and continuously updated as "running staff estimates" in preparing and executing—for assessment. Since assessing occurs throughout the operations process, this chapter discusses it in general and then again during the discussion of planning, preparing, and exe-

cuting. The commander uses the C2 system in action to exercise C2. Exercising C2 is dynamic and occurs through assessing, planning, preparing for, and executing military operations. While these activities are cyclical and continuous, they do not necessarily occur sequentially. As Figure 6-1

shows, part of each activity occurs with the commander exercising battle command at the center.

GENERAL

6-1. C2 is an execution-focused rather than a planning-focused process. Modern INFOSYS compress planning in three ways:

- First, they allow near-simultaneous parallel planning among echelons to compress the time needed for all echelons to complete their planning.
- Second, they allow collaborative planning among two or more echelons.
- Third, INFOSYS provide nearly continuous high-quality updates of the common operational picture (COP) to make effective incremental adjustments during execution.

6-2. The commander can initiate execution faster with a less time-intensive but satisfactory plan, allowing him to adapt actions quicker to new situations as he identifies them and to fight emerging conditions (enemy actions) as opposed to fighting the plan. The rapid resynchronization of forces and functions that emerges mitigates the potential loss of synchronization.
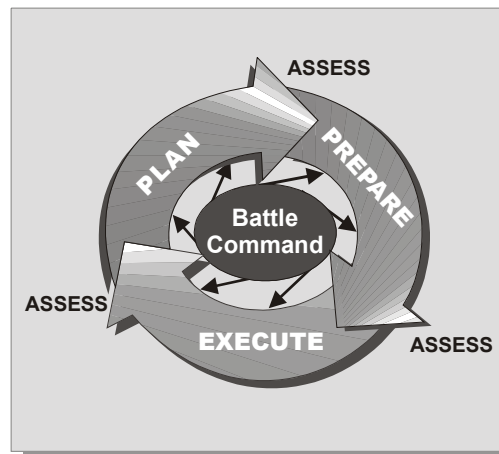
Figure 6-1. The Operations Process

6-3. Operations generally follow aprocess of planning, preparing for, and executing operations while continuously assessing as shown in Figure 6-1. FM 6-22 also describes the collective activities of the operations process as individual operating actions. Planning, preparing, and executing do not necessarily have distinct start and end points. Planning is continuous. While preparing for or executing one operation, the unit is planning (at least refining plans) for branches and sequels to the current operation or for the next operation. Preparation is also continuous anytime a unit is not executing an operation. Preparing for a specific operation starts with receiving a warning order for that operation, and it always overlaps with planning and continues through execution for some subordinate units. Assessing is continuous and influences all activities. Subordinate units within the same command may be in different stages of the process at any given time.

6-4. Chapter 6 discusses these activities, as well as their supporting topics, as shown in Figure 6-2. The commander uses visualizing, describing, and directing as discussed in Chapter 4 for his decision making methodology throughout the operations process—assessing, planning, preparing, and executing. His visualization provides him assessment, while he guides his staff subordinates with describing, and directs them to execute the actions he has chosen. The staff officers use their running staff estimates—developed in planning and continuously updated during preparation and execution—for assessing and supporting the commander's visualization.

PLAN	**PREPARE**	**EXECUTE**

!• TLP and MDMP.
!• Orders and Plans.
	!• Reconnaissance.
	!• Security.
	!• Force Protection.
	!• Revise and Refine the Plan.
	!• Coordination and Liaison.
	!• Rehearsals.
	!• Task Organizations.
	!• Train.
	!• Movement.
	!• Precombat Checks and Inspections.
	• Logistics Preparations.
	• Integration of New Soldiers and Units.
		!• Decide
		  -Execution.
		  -Adjustment.
		!• Direct
		  -Apply Military Power.
		  -Synchronize.
		  -Maintain Continuity.

Assess: Monitor Situation **Criteria of Success** **Evaluate COAs**	**Assess: Monitor Preparations** **Evaluate Preparations**	**Assess: Monitor Operations** **Evaluate Progress**

ASSESS
!• Situational Understanding: Sources; Solutions
!• Monitoring: Situation/Operations; Criteria of Success
!• Evaluating: Forecasting: Seize, Retain, Exploit the Initiative; Variances

Figure 6-2. Plan, Prepare, and Execute

6-5. Intelligence is a critical part of C2 in planning, preparing, executing, and assessing operations. It provides the first look at the enemy and environment factors of the battlespace and enemy courses of action (COAs) and high-value targets for each COA. Intelligence, surveillance, and reconnaissance (ISR) is an integrated concept that supports intelligence. The C2 staff synchronizes and integrates ISR assets to provide the maximum support to the commander. This integration begins during planning and continues throughout execution.

ASSESS

6-6. **Assessing is the continuous monitoring—throughout planning, preparation, and execution—of the current situation and progress of an operation and the evaluation of it against criteria of success to make decisions and adjustments.** Assessment uses situational understanding to monitor an operation against criteria of success in order to evaluate progress, forecast opportunities or threats, and identify variances from the plan in order to seize, retain, and exploit the initiative.

6-7. Situational understanding provides the basis for assessing. The commander and staff achieve and maintain situational understanding in order to identify opportunities for effective mission accomplishment, threats to the force, and gaps in information. While general situational understanding exists before planning, receiving a mission focuses the commander on a specific purpose. Situational understanding during planning establishes the commander's visualization. During preparation and execution, it supports continuously updating his visualization to allow him to assess the progress of operations for decision making. The commander's critical information requirements (CCIR), continuously updated, guide the commander's achievement of situational understanding. Throughout any operation, intelligence provides situation development and battlefield damage assessment to support assessing and decision making.

6-8. *Running estimates* **are continuously updated staff estimates based on new information as the operation proceeds.** They serve as a staff technique to support the commander's visualization and decision making**, as well as** the staff's tool for assessing during preparation and execution. In the running estimate, staff officers continuously update their conclusions and recommendations as they evaluate the impact of new facts. The updated conclusions and recommendations make the running estimate useful in assessing. The staff provides these updated conclusions and recommendations to the commander as required, either by the situation or by the commander.

6-9. Assessing consists of two distinct tasks: monitoring the current situation and progress of the operation, and evaluating the operation against criteria of success. These tasks take different forms during planning, preparing, and executing. Together, the two tasks assess the reality of the situation against expectations and progress of a plan in a specific situation.

MONITORING

6-10. **Monitoring is continuous observation of the common operational picture to identify indicators of opportunities for success, threats to the force, and gaps in information.** The commander and his staff monitor the current situation or ongoing operation through the COP. The commander and staff develop a plan based on various facts and assumptions. They monitor these to ensure they remain valid and to seek new facts and assumptions that will affect planning and current or future operations. They also look at the COP during preparation and execution for indicators that the plan could achieve its mission in a more effective and efficient manner (opportunities for success), that some action may cause failure (threat to

the mission or force), or that critical information is missing (gaps in information). The staff receives updated information for their original estimates.

6-11. Often, at lower tactical levels, standing operating procedures (SOP) reports are adequate for monitoring. Sometimes simple reports or communication through a liaison officer may suffice. However, the complexity of operations at higher echelons may require an explicit plan for monitoring. The synchronization matrix and decision support template (DST) provide a starting point because they show key points of synchronization and events to monitor. The monitoring plan assigns responsibility for monitoring specific actions. Modern C2 systems allow monitoring to a greater level of detail at higher echelons than before, but the best monitoring is least intrusive to the unit or event.

EVALUATING

6-12. **Evaluating is comparing relevant information (RI) on the situation or operation against criteria to determine success or progress.** Evaluating uses the COP to measure, analyze, and report the performance of forces against criteria of success to identify variance from the plan or its assumptions, and to forecast trends. It is based on factors such as timelines, distances, loss rates, consumption rates, unit effectiveness, enemy actions, and facts and assumptions.

6-13. *Criteria of Success* **are information requirements developed during the operations process that measure the degree of success in accomplishing the unit's mission. They are normally expressed as either an explicit evaluation of the present situation or forecast of the degree of mission accomplishment.** The staff develops criteria of success in planning, especially during wargaming, to use in evaluating COAs. Once the commander approves a COA, they serve to evaluate the progress of operations against the expectations of the plan. The criteria of success can, and should, change during execution. They may become CCIR if the information needed to evaluate them is not readily available.

6-14. The commander and his staff continuously evaluate the current and projected situation to determine if changes are necessary to reinforce the decisive operation. One aid to evaluation is the following list of questions. These questions may also serve to construct or revise the CCIR if answers are not readily available, but specific information requests must be constructed based on these general questions to develop new or revised CCIR. Many answers to the questions below would also serve as criteria of success.

6-15. By evaluating the answers to these questions against the criteria of success, the commander and staff determine the variances and their significance. Determining the significance of variances in operations is necessary to decide what to do. Commanders should not view the task of making adjustments as a problem. In any operation, the enemy is actively trying to defeat the friendly effort. Sometimes the enemy makes an unexpected move or friendly actions are ineffective. Sometimes the environment changes, affecting the performance of both enemy and friendly forces. In all cases, the commander considers adjusting his plan if the variances are or could become significant. These same factors may also present the commander with an

opportunity to achieve greater success or objectives beyond those immediately assigned. These conclusions depend on identifying performance variances— current and forecasted—when executing. As Chapter 4 discussed, the commander uses his visualization based on the COP as his primary evaluation method. The staff uses its continuously updated staff estimates, derived from its understanding of the COP, to evaluate the situation or operation.

Can the force meet the commander's intent?

Where is the enemy? Doing what? How?

Where are friendly forces? Doing what? How?

What is the posture of the enemy force now? What will it be?

Where will the friendly force be?

What are the enemy's problems, and how can we exploit them?

What are our problems, and how can we correct them?

What are the enemy's opportunities, and how can we deny them?

What are our opportunities, and how can we exploit them?

Are any changes needed to our concept? Our task organization? Our mission?

6-16. Modern INFOSYS can support assessing through automated monitoring of criteria of success, identifying variances from expectations, forecasting the magnitude of changes, and comparing performance against expectations. They allow the commander and staff to focus on the significance of variances and their implications for success. Qualitatively, they accomplish this support faster with greater precision. All these assist the commander in visualizing and anticipating when his plan or operation is in danger. They can also aid the staff in maintaining its running estimates to support commanders in achieving or maintaining their situational understanding and in their decision making.

6-17. Figure 6-3 indicates how technology can help establish the COP and support assessing. Current technology should allow the commander to achieve a higher level of situational understanding initially (than previously), allow frequent updates of the COP, and help him retain that situational understanding with less degradation. Technology cannot fully answer all questions, but it informs the commander on the gaps that remain when he applies the art of command.

Seize, Retain, and Exploit the Initiative

6-18. Assessing should help the commander and staff identify and anticipate opportunities for seizing, retaining, and exploiting the initiative:

- Seize the initiative. Set and dictate the terms of action throughout the battle or engagement.
- Retain the initiative. Apply unrelenting pressure on the enemy by orchestrating continuously changing combinations at a tempo that the enemy cannot effectively counter.

- Exploit the initiative. Follow through on local success to realize long-term decisive success.
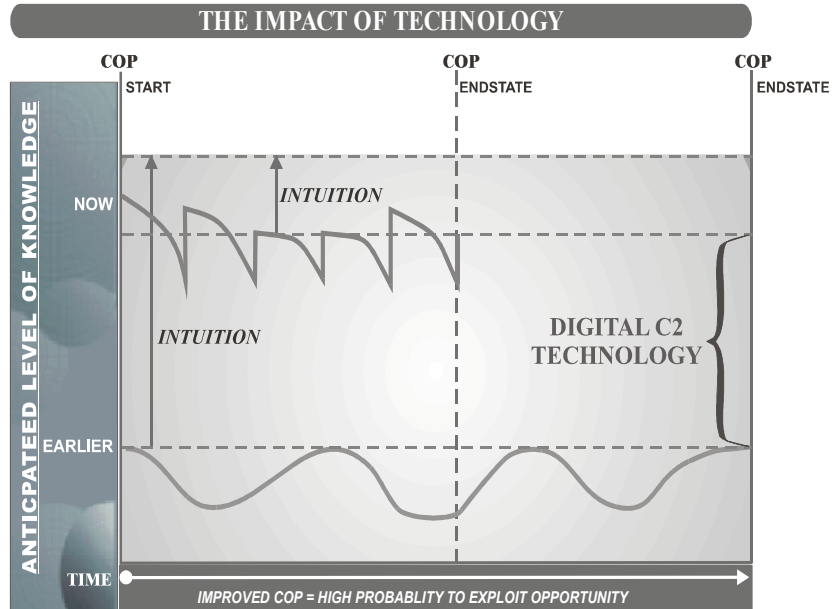
Figure 6-3. Restoring the Common Operational Picture

6-19. **Seize the Initiative.** The commander plans to seize the initiative at the earliest possible moment. Planning can determine initially where, when, and how to seize the initiative. However, the enemy will actively try to prevent this and to disrupt friendly plans. Seizing the initiative requires effective plans to counter enemy efforts. The commander uses preparation to set conditions that lead to seizing the initiative, and assesses their effectiveness. During execution the commander and staff identify, create, and recognize forecast opportunities to seize the initiative.

6-20. The staff must identify criteria of success related to seizing the initiative during planning and assess them during preparation and execution. Friendly forces may seize the initiative unexpectedly, or find unexpected opportunities to seize it. In this case, assessing must recognize either the opportunities or that the force has seized the initiative, and immediately act to retain and exploit it.

6-21. Seizing the initiative often requires taking risk. The commander and staff evaluate enemy and friendly actions to determine if they indicate seizing the initiative and, if not, what friendly actions will enable friendly forces to seize the initiative. The following are general indicators of seizing the initiative.

- Friendly forces no longer decisively engaged or threatened with decisive engagement.
- Friendly forces able to deploy combat power or forces at time and place of choosing.

- Enemy forces no longer offering effective resistance to friendly forces or capable of reestablishing resistance.
- Unanticipatedly light enemy resistance or large numbers of prisoners.
- Sudden acceleration of friendly rates of advance or lessening of casualties.

6-22. During the offense, planning and seizing the initiative are easiest, as friendly forces often have the initiative. However, they must still consciously set and dictate the terms of action to an uncooperative enemy who attempts to seize the initiative for himself. In the defense, seizing the initiative normally consists of wresting the initiative from the enemy. Defending forces may set and dictate the terms of action through shaping operations that allow seizing the initiative early, if not setting the terms of battle from the outset. Seizing the initiative during stability operations and support operations is most difficult, as the adversary is not as clearly evident as in the offense or defense. In these actions, seizing the initiative consists of planning and applying enough resources to control the situation.

6-23. **Retain the Initiative.** The commander and staff identify enemy actions to regain the initiative. This requires planning current actions and thinking ahead to anticipate key events hours or days beforehand to maintain pressure on the enemy. This pressure comes from anticipating likely enemy actions and developing branches, sequels, or adjustments to the plan to create a seamless, uninterrupted series of actions that force the enemy to react immediately, never allowing him to regain synchronization. Ideally, these actions would present the enemy with multiple critical problems that require more resources to solve than he has. As tempo is part of maintaining momentum, the C2 system keeps the operation synchronized at the desired tempo.

6-24. **Exploit the Initiative.** Once friendly forces seize the initiative, they should immediately plan to exploit it by conducting continuous operations that will accelerate the enemy's complete defeat. This starts the process again, bringing the observe, orient, decide, act (OODA) cycle back to the beginning. Collaterally, the C2 system identifies disorganization among friendly forces and directs reorganization or reconstitution to restore those forces to combat readiness and to develop options to exploit the initiative.

Recognizing Variances

6-25. **Variances are differences between the actual situation during an operation and what the plan forecasted the situation would be at that time or event.** INFOSYS should display relevant information in the COP that highlights the existence of variances. Figure 6-4 shows simply and graphically the role of recognizing variances from the plan. In these cases, the staff uses objective and subjective criteria to assess the COP to determine the existence of variance, if the variance is significant, and what part of the plan it affects. If the evaluation reveals no substantial or unforeseen variance, the commander can execute normal procedures to restore the operation to the plan.

6-26. There are two forms of variance. The first is an unexpected threat to mission accomplishment or the force. When a threat is recognized, the commander adjusts the plan to eliminate the enemy advantage and restore the

friendly advantage or initiative. The second form of variance is an unexpected opportunity to accomplish the mission more effectively. Opportunity occurs as a result of unexpected success against the enemy. When recognized, the commander should alter the plan (although the concept may, and the intent will usually remain the same) to exploit the opportunity if he can do so without compromising the plan or incurring unacceptable risk. In evaluating variances, the commander recognizes opportunities and threats in time to react effectively during assessing.
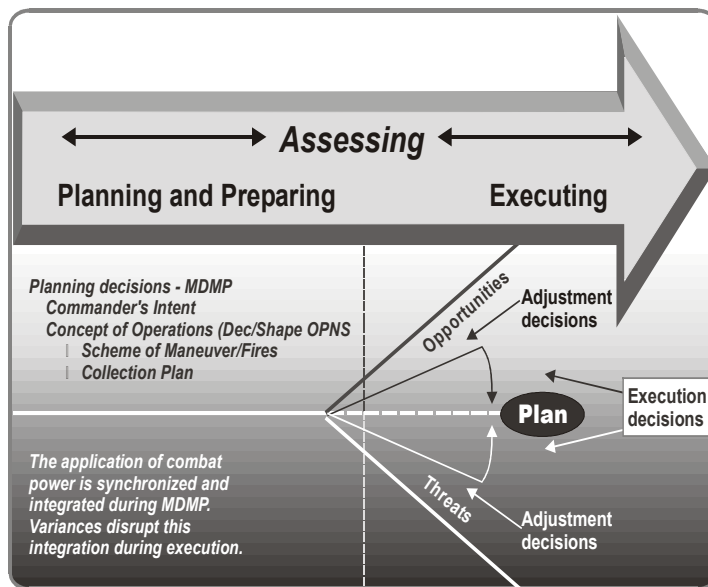
Figure 6-4. Recognition of Variance

6-27. Mission command, with decentralized operations guided by the commander's intent, creates and allows earlier recognition of opportunity or threat and faster reactions than detailed command.

PLAN

6-28. Planning is the means by which the commander envisions a desired outcome, lays out effective ways of achieving it, and communicates to his subordinates his vision, intent, and decisions, focusing on the results he expects to achieve (FM 3-0). Planning can be done either by troop leading procedures (TLP) (usually for units without a staff) or the MDMP. Assessment during planning focuses on monitoring the current situation, establishing criteria of success, and evaluating COAs. In mission command, any plan is a framework from which to adapt, as the situation requires, and not a script to follow to the letter. The measure of a good plan is not whether it transpires as designed but if it facilitates effective action in the face of unforeseen events.

GENERAL

6-29. Successful planning requires both art and science. It can be a detailed, systematic analysis and evaluation of all factors relating to an operation that provides insight into what might occur to produce an optimum COA for mis

sion accomplishment. This type of planning anticipates future conditions and expects possible execution later. Alternatively, planning may be a hasty process, considering only critical aspects to reach an acceptable COA quickly in the face of enemy actions. In this case, planning under time-constrained conditions, the staff is usually responding to existing conditions and needs a quick plan for immediate or near-future execution. All planning takes time and must facilitate generating or maintaining tempo.

6-30. Planning is a dynamic process of interrelated activities rather than a single action. It starts when the commander receives a new mission (or derives one from ongoing operations). It supports decision making by analyzing the factors of METT-TC through the MDMP, to include intelligence preparation of the battlefield (IPB), and by providing context to develop situational understanding to facilitate selecting a COA. The outcome of planning is the commander's decision about how to conduct the operation. After this decision, planning continues by creating an order or plan. The order may be a formal order or a FRAGO. The order or plan contains necessary coordination measures, directs preparation activities, allocates or reallocates resources, and dictates timing for execution. Planning continues during preparing and executing, whether by refining the plan, usually in response to updated COP information, or by creating or refining branches and sequels.

6-31. Detailed planning before execution facilitates future decisions and actions by assessing factors that are predictable, unpredictable (effects of weather and terrain), or dictating those things not likely to change during the operation, such as certain aspects of supply or transport. It helps the staff examine its assumptions, understand the situation, and anticipate possible enemy actions and friendly counteractions. It can identify and act to prevent mistakes in coordination and synchronization. Finally, it can uncover and clarify potential opportunities, threats, and information gaps.

6-32. Although planning is oriented on the future in an effort to project thoughts and designs forward in time, it involves an appreciation for planning horizons. Because the future is always uncertain, planning should not specify future actions with precision. Rather, plans must remain flexible and adaptable, allowing the opportunity to pursue a variety of options. As plans extend further into the future, they become less a matter of trying to direct events and more a matter of identifying options and possibilities. While planning must project into the future to maintain the initiative and prepare adequately for upcoming action, it should not project so far into the future that plans have little in common with actual developments. A key to this is the ability to discern future enemy actions. If unable to predict enemy actions with reasonable certainty, the plan must keep friendly options open until intelligence builds a clearer picture of the enemy.

6-33. Mission command requires plans that provide commanders the flexibility to exploit opportunities and respond to threats. The commander should also decentralize planning to the lowest possible levels so subordinates have maximum freedom of action. In general, the plan should not be a script that establishes specific actions and timetables for those actions, either for the unit itself or for subordinates. Such scripting severely limits chances to seize, retain, or exploit the initiative when unexpected threats or opportunities arise. Rather, a good mission order creates opportunities for subordinates to

exercise their disciplined initiative based on the commander's intent and the particulars of each situation. Mission orders should prescribe a subordinate's actions only to provide for necessary coordination.

6-34. Effective planning requires a sensitive awareness and judicious use of time. There is little excuse for not planning effectively or efficiently within the time available. Plans should always be completed as soon as possible to maximize subordinate command planning time. The staff should use frequent WARNOs and judicious collaborative planning to facilitate parallel planning with subordinates. In addition, just because time is available does not mean that orders or plans should be detailed or lengthy; mission orders should be as simple as possible and provide maximum latitude for subordinates in execution.

6-35. Planning should be collaborative to the extent that the situation permits. The main benefits of collaborative planning come as much from engaging meaningfully in the process as from the product itself. While the plan may convey the decision, participating conveys the context of the decision, as well as understanding the available options and the relationships among forces.

6-36. Without question, planning is an important and valuable activity of C2. However, the process can lead to overcontrol and mechanical thinking. A properly framed commander's intent and effective planning guidance create plans that foster mission command. This creates a high tempo of operations that allows flexibility while executing operations.

ASSESSMENT DURING PLANNING

6-37. During planning, the staff uses information management to create the initial COP. This supports achieving situational understanding that identifies opportunities, threats, and gaps in information to develop and evaluate COAs. Assessing establishes initial criteria of success of the operation. The commander and staff develop these criteria during the COA analysis and use them for COA comparison. These criteria are then used for evaluating during preparation and execution. IPB is a key tool for assessing that begins during planning and continues throughout the operations process. The staff uses staff estimates for assessment during planning. FM 5-0 contains the format for staff estimates.

TLP AND MDMP

6-38. The US Army uses two procedures to guide planning activities. Company level and below usually use TLP as a framework to guide their planning process. The MDMP is more appropriate for battalion through corps headquarters with assigned staffs. The two procedures are closely interrelated. Both TLP and the MDMP can be done in detail if time permits, or in a time-constrained environment where some steps are shortened. More planning time results in a better coordinated and synchronized plan, but it also means less time for subordinates to plan and prepare and more time for the enemy to prepare and act. FM 5-0 discusses and describes both TLP and MDMP in detail.

ORDERS AND PLANS

6-39. An order is a written or oral directive issued by a commander to subordinate commanders to communicate execution information that directs action. The source for any directive is the commander's decision—the initial product of planning. It provides a way for the commander to convey his intentions to his subordinates.

6-40. Orders should be timely and as clear, simple, and concise as each situation permits, conveying the minimum amount of information necessary for execution. They should contain a simple, clearly stated intent and concept of operations. An excellent example of this, shown in FM 5-0, is VII Corps Field Order 18, 23 March 1944, for a six-division coordinated attack that encircled the Ruhr industrial region in Germany in World War II. This field order was only three typed pages, with an operations overlay, a fire support annex, and an intelligence annex.

6-41. Issuing orders in the CP allows each staff member to answer questions about the order and helps the commander make refinements. It also helps coordination. However, issuing orders is less than half the work: General Patton in World War II counted it only 10 percent, with the other 90 percent focused on preparing and executing operations. FM 5-0 discusses doctrinal techniques and formats of orders and plans.

PREPARE

6-42. Preparing is activities by the unit before execution to improve its ability to conduct the operation, including, but not limited to, the following: plan refinement, rehearsals, reconnaissance, coordination, inspections, and movement (FM 3-0). Preparation occurs when a unit is not conducting an operation. A unit prepares continuously for deployment or operations when not conducting a specific operation, including such activities as training and maintaining personnel and equipment. Preparation of a unit for a specific operation starts with receiving a warning order and ends when execution begins.

6-43. Preparation requires staff, unit, and soldier actions. Preparation further consists of several activities, all of which involve work at the three levels. Common activities during preparation are—

- Reconnaissance
- Security
- Force protection
- Revise and refine the plan
- Coordination and liaison
- Rehearsals
- Task organization
- Train
- Movement
- Preoperations checks and inspections
- Logistics preparations
- Integration of new soldiers and units

ASSESSMENT DURING PREPARATION

6-44. Assessment during preparation monitors the progress of readiness to conduct the operation and assists in refining the plan. It evaluates preparations against criteria of success established by planning to determine variances, and it forecasts the significance of those variables for the success of the operation. The commander continues his visualization, and the staff commences its running estimates during preparation.

RECONNAISSANCE

6-45. During preparation, the commander takes every opportunity to improve his situational understanding about the enemy and terrain. Commanders integrate reconnaissance missions and surveillance means to form an integrated ISR plan that capitalizes on their different capabilities. Reconnaissance is often the most important part of this phase, providing data that contribute to answering the CCIR. As such, the commander should plan and execute it with the same care as any other operation. He should normally launch reconnaissance before developing a completed plan. In fact, it is often necessary for reconnaissance to provide additional information on which to base the final plan.

6-46. The commander coordinates reconnaissance using a reconnaissance and surveillance annex to the operations order (OPORD). (FM 5-0 discusses how reconnaissance fits into the MDMP.) The commander should consider requesting assistance from sources outside of his control, to include long-range surveillance teams and joint assets. The commander and staff synchronize reconnaissance missions with the other ISR components to continuously update and improve their situational understanding.

6-47. Reconnaissance is not a static, one-time effort that achieves a goal and then stops. As reconnaissance forces gather information, the staff should modify the collection plan to account for new information and to redirect ISR efforts to collect additional information. The commander and his staff continuously review intelligence products and synchronize their reconnaissance efforts within the ISR plan to focus on the most important remaining unknowns, emphasizing the established or revised CCIR. The commander always balances the need for information with the ability of reconnaissance units to gather it, the risk to the reconnaissance assets during collecting, the ability to sustain the reconnaissance effort over time, and the requirement to have reconnaissance assets available at critical times and places to support the decisive operation.

SECURITY

6-48. Security operations during preparation prevent surprise and reduce uncertainty through security operations, local security, and OPSEC. These are all designed to prevent the enemy from discovering the friendly force's plan and to protect the force from unforeseen enemy actions. Security elements direct their main effort toward preventing the enemy from gathering essential elements of friendly information (EEFI). As with reconnaissance, security is a dynamic effort that anticipates and thwarts enemy intelligence-collecting efforts. When successful, security operations provide the main body adequate time and maneuver space to react to enemy initiatives. To accom

plish this, the staff coordinates security operations among the units that conduct them and concurrently synchronize them with local unit security. For an in-depth discussion of security operations, see FM 3-90.

FORCE PROTECTION

6-49. Force protection employs a combination of active and passive measures to deter, defeat, or mitigate hostile actions against friendly forces. Force protection is not a discrete mission assigned to a single unit, but a continuous process executed by all commanders regardless of their mission, location, or threat. It consists of a broad set of unit-specific, coordinated actions executed to protect the entire force across the full spectrum of operations. The commander and staff develop and initiate actions during planning, but conduct them mainly during preparing and through executing.

REVISE AND REFINE THE PLAN

6-50. Plans are not static; the commander adjusts them based on new information. During preparation, the enemy is also acting. As friendly assumptions prove true or false, as reconnaissance confirms or denies enemy actions and dispositions, and as the status of friendly units changes, the commander adjusts or aborts his plan to account for the current situation. He determines whether the new information invalidates the plan, requires him to adjust the plan, or validates the plan with no further changes. He balances the loss of synchronizing and coordinating caused by a change to the plan against the problem of trying to execute a plan that no longer fits reality.

COORDINATION AND LIAISON

6-51. **Coordination is actions taken to maintain synchronization and prevent confusion and problems.** It takes place continuously during preparation for and execution of operations. Units do not operate in isolation; they must synchronize their actions with others. Coordinating is the essential function for this synchronization. Coordination has four objectives:

- It ensures a thorough understanding of the commander's intent as well as subordinates' and supporting forces' roles.
- It ensures that all affected and interested personnel have been consulted, as time allows, or informed so that they may respond as desired or adjust their plans and actions.
- It avoids conflict and duplication of efforts among units, reducing fratricide and expending resources.
- It ensures the commander and staff consider all relevant factors, or as many as time permits, and effectively employs all available assets. Coordination may take place in location, time, or function. Coordinating Army operations begins during planning. However, a plan alone does not guarantee coordination. Exchanging information is critical to successful coordination.

6-52. During preparation, units conduct all necessary coordination with higher, lower, adjacent, supporting, and supported units. This includes sending and receiving liaison teams as necessary. Coordination also includes establishing all necessary communications links to guarantee continuous con

tact during execution. Units should exchange standing operating procedures (SOP) if necessary, and coordinate security and reconnaissance plans to ensure that no breaks in coverage are allowed.

6-53. Coordination requirements fall into two categories—external and internal to the coordinating headquarters. Internal coordination occurs within the unit headquarters. It initiates activities within and among staff sections required for the plan to succeed. It ensures that staff officers remain fully informed of relevant information affecting their areas of responsibility. During preparation, internal coordination ensures that the unit refines the plan based on updated information. It helps resolve problems of external coordination. Internal coordinating also resolves problems, conflicts, and resource allocation to support preparations by subordinate units.

6-54. External coordination includes coordinating with subordinate units, higher headquarters, and supported and supporting units for resources or forces that may not be immediately under the unit's control during planning. Coordination among adjacent units or between forces in noncontiguous AOs requires special effort. Any place where two headquarters must coordinate their actions is a potential weak point that the enemy may exploit or where too many or too few resources may be committed. This includes major unit boundaries where the interdependence of units could cause delays in execution. In noncontiguous AOs, this includes using resources to support two or more such areas. The "directed telescope" is an important technique of external coordination because of its information-gathering capability and the ability of the officer to speak for the commander if he has delegated authority.

6-55. Establishing and maintaining liaison is vital to external coordination. Liaison provides a means of direct communications between the sending and receiving headquarters. It may commence with planning and continue through preparing and executing, or it may commence as late as execution, depending on resources and the need for direct contact between sending and receiving headquarters. The earlier liaison can be established, the more effective the coordination. See Appendix E for further discussion of liaison.

6-56. Graphic control measures are among the most basic forms of coordination. The "Coordinating Instructions" subparagraph of the OPLAN/OPORD also contains control measures in written form. In graphic and written forms, control measures act to coordinate forces' actions geographically, functionally, or chronologically, as well as to control individual subordinates' actions. Written control measures are the most likely source for chronological coordination, although some graphic control measures contain chronological restrictions. The joint force Airspace Control Authority (ACA) approves all airspace control measures. For details on airspace control measures, see FM 3-52 . For a listing and definition of all control measures, see FM 1-02 .

REHEARSALS

6-57. **Rehearsals practice actions to improve performance in execution.** All rehearsals for the operation occur during the preparation phase. The rehearsal is the commander's tool to ensure his staff and subordinate commanders understand his intent and concept and to synchronize the operation at times and places critical to successful accomplishment. The extent of

rehearsals depends on the time available. Rehearsals allow participants in an operation to become familiar with and to translate the plan into a visual impression that orients them to their environment and other units when executing the operation. They also imprint a mental picture of the sequence of key actions within the operation and provide a forum for subordinate and supporting leaders and units to coordinate.

6-58. Rehearsals may reveal unknown external coordinating problems not resolved by the rehearsal. Moreover, they can emphasize times, locations, and solutions for coordinating actions of subordinates to achieve synchronization at key points. Rehearsals also support internal coordination, as members of the headquarters identify key activities to achieve the desired external coordination. If headquarters members do not all attend a rehearsal, they may still receive taskings for internal coordination. Rehearsals result in updating internal coordination techniques such as the synchronization matrix and DST. See Appendix F for further discussion and details of rehearsals.

TASK ORGANIZATION

6-59. Task organization involves transferring available resources and establishing command and support relationships according to the plan. Actions resulting from these changes include: exchanging SOPs; establishing communications links; and conducting briefings and rehearsals to integrate units that are assigned, attached, OPCON, or in direct support (DS) of the plan. The unit makes provisions for required logistics support. FM 5-0 contains further guidance on task organizing.

TRAIN

6-60. Training can develop the teamwork, trust, and mutual understanding necessary to achieve unity of effort. During repetitive, challenging training, commanders enhance their tactical skills and learn to develop, articulate, and disseminate their intent. In addition, they hone command skills during rehearsals, helping to reinforce their unit's common understanding of tactics, techniques, and procedures (TTP).

6-61. Training prepares forces and individuals to execute actions in accordance with doctrine and TTP, as practiced by the commander in his unit. Training may prepare the force for specific missions that it faces immediately or for generic missions, tactics, techniques, or procedures that the commander expects the force may need in foreseen missions. The AAR process associated with most US Army training gives commanders and their forces practice and review in what constitutes "reliable actions" of doctrine. Moreover, training creates mutual trust and understanding among the commander, his staff, subordinates, and troops for exercising mission command.

MOVEMENT

6-62. All movement to position or reposition units for execution takes place during preparation. The commander integrates movement with OPSEC measures to ensure that it does not reveal any intentions to the enemy. This movement includes advance party reconnaissance of assembly areas and route reconnaissance to support the moves. For an in-depth discussion of troop movement operations, see FM 3-90.

PREPARATION CHECKS AND INSPECTIONS

6-63. Unit preparation includes completing precombat checks and inspections to ensure that units, soldiers, and systems are fully capable and ready to execute as time and resources permit. This preparation includes precombat training to train soldiers and systems to execute the mission.

LOGISTICS PREPARATION

6-64. Resupplying, maintaining, and issuing special supplies or equipment takes place during the preparation phase as does any repositioning of critical logistic assets. In addition, there are numerous other potential activities that may include identifying and preparing forward bases, selecting and improving lines of communications, and identifying resources available in the area and making arrangements to acquire them. OPSEC should govern these preparations so as not to reveal friendly intentions.

INTEGRATION OF NEW UNITS AND SOLDIERS

6-65. The commander and staff assure that new soldiers are assimilated into their units and new units into the force conducting the operation in a posture that allows them to contribute effectively. They also prepare new units and soldiers to perform their roles in the upcoming operation. Integrating includes receiving and introducing new units and soldiers to the force and environment, orienting them on their places and roles in the force and operation, establishing C2 and communications for and with them within the force, and training them on the unit SOP and METL for the operation.

EXECUTE

Only in very rare cases can an army obtain a complete picture of the enemy's situation before an attack is launched, even when reconnaissance has been detailed and thorough. Wireless silence, misleading information from agents, standing patrols, and defensive screens by land and air make reconnaissance difficult. Therefore, offensive plans must be flexible, and, once the attack has begun, commanders and troops must be ready to adapt themselves to rapidly changing situations. In principle, estimates of enemy dispositions only hold good until the first clash...As the great von Moltke said:

"No plan survives contact with the enemy."

F.W. von Mellenthin

6-66. **Executing is putting a plan into action by applying combat power to accomplish the mission and using situational understanding to assess progress and make execution and adjustment decisions.** Inherent in execution is deciding to execute planned actions, such as phases, branches and sequels, as well as deciding to change the plan based on changes in the situation. During execution the commander directs the application of combat power, ensuring adequate, but not excessive, synchronization. He maintains continuity of operations to prevent the enemy from regaining his equilibrium. Assessment is particularly important during execution as the situation changes rapidly.

6-67. In execution, the commander and the C2 system assess to determine if progress meets expectations. Based upon assessment, they make either execution or adjustment decisions. Then they direct to put those decisions into action. The commander continues to use visualizing, describing, and directing as his methodology for assessing and decision making during execution. The staff supports him with its running estimates throughout execution.

GENERAL

6-68. Planning and preparing are for naught if the unit does not execute effectively. The best plan poorly executed has much less value than an adequate plan well executed by subordinates who exercise initiative in employing well-trained units in full spectrum operations that can move, shoot, and communicate under adverse conditions. Superior execution effected in a timely manner can overcome an adequate plan, while a brilliant plan cannot accomplish the mission with poor execution. Friction and uncertainty, especially in the form of enemy action, have a dynamic effect on plans, imposing new realities on situational understanding.

6-69. Execution entails much more than just putting the plan into action. Execution, a continuous process of three activities, follows the OODA cycle discussed in Appendix A. The activities are: assessing the current state and forecasting progress of the operation; making execution and adjustment decisions to account for unforeseen enemy actions and to exploit opportunities; and directing actions to apply combat power to accomplish the mission. Assessment consists of monitoring and evaluating, which closely resemble the observe and orient stages of the OODA cycle. Making execution or adjustment decisions resembles the decide stage, and directing actions to apply military power resembles the act stage of the cycle, as discussed in Appendix A.

6-70. During execution changes occur, some from effective or ineffective action by the enemy or friendly forces, and some from changes within the environment. Successful execution depends on identifying and adapting to one or a combination of changes in these elements.

6-71. There are two methods for adapting to changes. The first method, already discussed under planning, consists of anticipating changes and developing branches and sequels to the plan to deal with them. Anticipating changes does not end with planning; it continues throughout preparation and especially during execution. Napoleon, who often appeared to have luck on his side, remarked:

If I always appeared prepared, it is because before entering an undertaking, I have meditated for long and have foreseen what may occur. It is not genius which reveals to me suddenly and secretly what I should do in circumstances unexpected by others; it is thought and meditation.

Napoleon's view reinforces the role of anticipation in commanders. Study and development help the commander apply analysis and judgment to understand a situation, establish valid, realistic criteria for decisions, and comprehend the relationships in command to anticipate events and consequences.

6-72. The second method of adapting to change is improvising, acting or adopting solutions to unforecasted changes during the operation. While improvisation is not the preferred method, situations frequently arise requiring its use. The real difference between the methods is time: anticipation occurs when the enemy's actions are foreseen early enough to develop an analytical response. Improvising occurs when the enemy action is unexpected and does not allow time for formally planning a response.

6-73. At its most basic, C2 during execution validates the commander's visualization. This validation consists of assessing the commander's visualization against the realities revealed during execution. It looks for deviations from visualization or indicators that the visualization is inadequate to describe the actual situation as well as confirming the visualization. If the situation validates the visualization or can meet it with simple adjustments, then executing can proceed normally. However, if visualization no longer reflects reality, the commander modifies his visualization—either his concept or his intent—and adjust operations to reflect the new visualization.

Figure 6-5. Decision Making during Execution
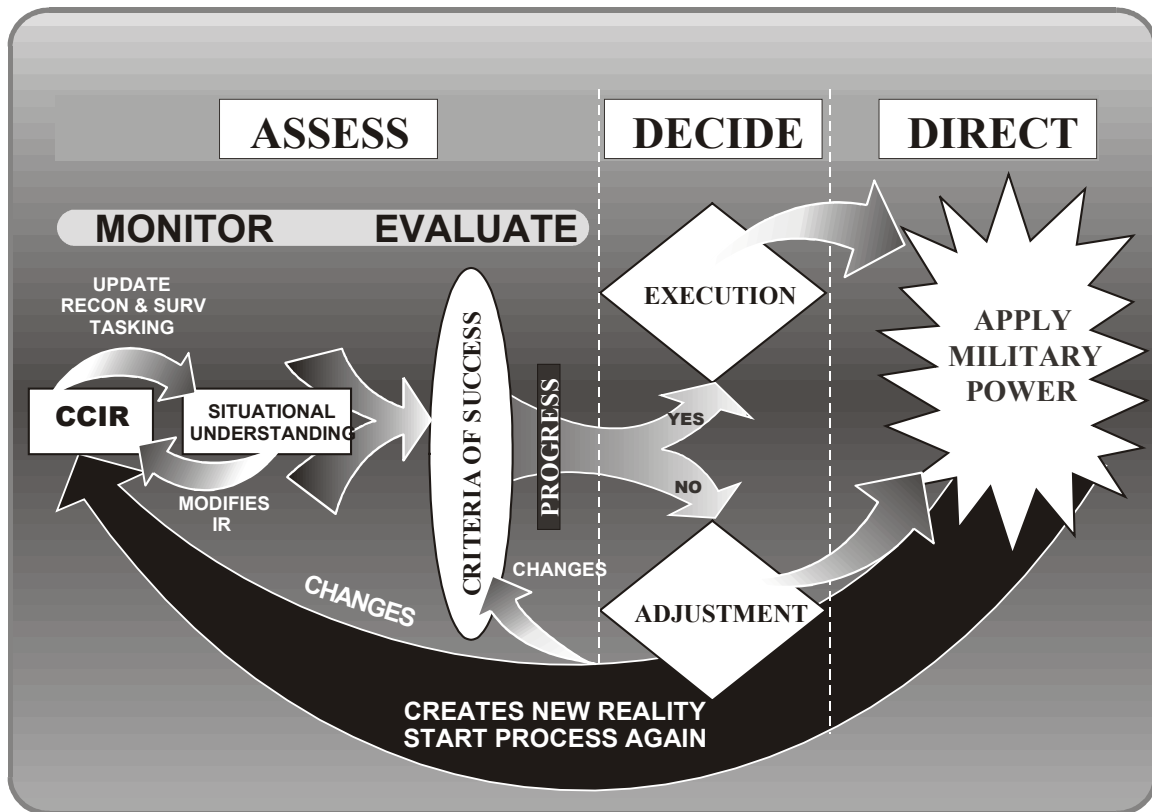
6-74. During executing, the C2 system must continuously manage relevant information. It must compare the COP against the commander's intent, identify variances from the plan, and recommend solutions for the commander to decide, correct, or exploit the variances. Finally, it must direct actions to execute decisions to counter unforeseen enemy or friendly actions or exploit opportunity.

ASSESSMENT DURING EXECUTION

6-75. During execution, assessing the operation is an essential, continuing task. It is a deliberate comparison of forecasted outcomes to actual events, using the criteria of success, to judge operational success at any point during the operation. This process identifies the magnitude and significance of variances in performance of those indicators from expectations, and determines the need for adjustments. Commanders and staffs assess the probable outcome of the ongoing operation to determine whether changes are necessary to achieve the mission, react to unexpected threats, or take advantage of opportunity. Intelligence uses situation development to contribute to assessment during execution. Leaders also assess the probable outcome of the current operation in terms of its impact on potential future operations in order to develop concepts for these operations early.

6-76. During execution, the commander uses situational understanding to assess the ongoing operation rather than decide among COAs. The most important question when assessing the conduct of an operation is whether the current plan is still valid. Assessment supports the commander in making both execution and adjustment decisions. As the commander develops his assessment, he describes his conclusions to his staff and subordinates to guide them in supporting him. After he makes a decision, the staff readjusts the plan to include adjustments to the criteria of success required by his decisions, and the focus returns to executing and assessing.

Monitoring the Operation

6-77. The commander and his staff monitor the ongoing operation to determine if it is progressing satisfactorily according to the current plan, including any FRAGOs that have modified it. The plan is based on various facts and assumptions. The staff monitors these to ensure they remain valid and to seek new facts and assumptions that affect current and future operations. The criteria of success can, and should, change during execution, often generating new information requirements.

6-78. Monitoring uses relevant information to develop a clear understanding of the unit's current state with relation to the enemy and environment during an operation. The staff processes relevant information and presents the commander as clear a picture of the current operation as possible. All staff members must understand what constitutes a critical event and which changes in capabilities and resources to report to the commander or appropriate staff sections immediately.

Evaluating

6-79. The commander and his staff continuously evaluate the criteria of success, including forecasted performance, to determine variances and their significance. Determining the significance of variances during operations is a necessary condition to assessing progress of the operation and deciding what to do. Commanders should not view the task of making adjustments as a problem. In any operation, the enemy is actively trying to defeat the friendly effort. Sometimes the enemy makes an unexpected move or friendly actions are ineffective. Sometimes the environment changes. In all cases, the commander adjusts his plan. These same factors may also present the com

mander with an opportunity to achieve greater success or achieve objectives beyond those immediately assigned. The staff must continuously update running estimates as its source of assessment to supplement and support the commander's visualization. Intelligence provides battle damage assessment as part of this evaluation.

6-80. Evaluation should gain time by anticipating future operations and linking them to current operations. To link current and future operations, answering certain questions will check the assumptions, estimates, and planning used during the war gaming to confirm or adjust plans. The answers also help anticipate future operations by developing concepts for anticipated situations, refining friendly options developed during war gaming, and disseminating concepts early for parallel if not collaborative planning. The commander and his staff consciously and continuously pose the following questions and evaluate the answers:

- Is the enemy acting as anticipated? If not, do enemy actions invalidate the current plan?
- Is the friendly force accomplishing the mission at an acceptable cost? If not, what changes are required to put the plan back on track?
- Is the progress of the operation leading to a disposition of friendly forces that can transition effectively to anticipated future operations?
- Has the situation changed so that friendly forces can exploit unanticipated opportunities to achieve the end state more effectively than what is called for in the original plan?

6-81. A substantial focus of assessing during execution is on progress, that is, assessing whether individual activities in the AO, and the larger operation itself, are progressing according to the criteria of success. Assessing progress can result in two outcomes. First, that the operation or its preparation is progressing satisfactorily, that observed variances between the expectations and current (or forecast) performance of critical indicators are minor and within acceptable levels. Progress meets the commander's intent and the concept of operations is still relevant to the situation. This evaluation, stated explicitly or taken implicitly, results in allowing the operation to proceed according to plan. It leads to execution decisions foreseen by the plan.

6-82. The second outcome is that the operation as a whole, or one or more of its major activities, is not proceeding according to expectations. The observed variances, measured against the criteria of success, are sufficient to endanger the operation's success. This assessment can result from friendly failures or enemy successes. The assessment can also result if performance of critical indicators is much better than expectations, presenting a significant opportunity. In either case, the commander should make an adjustment decision to eliminate the threat or take advantage of the opportunity.

DECIDE

6-83. The commander should not hesitate to modify his plan or scrap it altogether if it is necessary to save the force, to accomplish the mission, or to achieve greater success. Adhering to a plan when the situation has changed significantly wastes resources and opportunities. Since plans rarely unfold as initially written, the flexibility to adapt to changing situations is the hall

mark of a good tactician. The commander is flexible in his thinking, and his unit flexible to execute mission changes on short notice. The CofS/XO can assist and advise the commander in making necessary battlefield changes based on the current assessment when the commander is absent from the CP. While BOS representatives in the main CP gather critical information under the CofS/XO's supervision, the integrated analysis of this information may not always be available to the commander if he is forward. It is imperative for the CofS/XO to convey recommended battlefield adjustments quickly and accurately to the commander.

6-84. Commanders at all levels create and nurture this capability in themselves and their subordinates. This includes considering whether the benefits of adjustments outweigh the costs of disrupting the current plan, particularly its synchronization. Commanders train to counter unexpected enemy actions, such as employing the reserve to defeat an enemy counterattack. They also train to take advantage of unforeseen opportunities, such as shifting the decisive operation to exploit the success of a shaping operation leading to a quicker and less costly enemy defeat.

6-85. Decisions during executing consist of two basic types:

- **Execution Decisions.** If the progress of the operation is meeting expectations, what needs to be done next according to the plan?
- **Adjustment Decisions.** What must be done to exploit opportunity or restore operations to those that will accomplish the mission?

6-86. The difference between execution and adjustment decisions lies in whether the plan anticipates the situation requiring a decision. In execution decisions, the variances in criteria of success are within limits for planned actions, sequels, or branches. For adjustment decisions, the variances are greater than expected from the criteria of success.

Execution Decisions

6-87. The commander's **execution decisions implement those actions anticipated and directed by the order**. The most basic form of an execution decision is applying resources or conducting activities as outlined within the plan, or within minor tolerances of the plan. The critical ongoing functions during execution, discussed below, are also execution decisions when they support planned activities of the operation. Initiating a branch or sequel is an execution decision.

6-88. **Critical Ongoing Functions.** The unit must accomplish routine tasks during execution, even if the plan is progressing satisfactorily. Although these tasks are routine occurrences in any operation, the commander consciously and continuously considers and, when necessary, directs activities in them during execution. He also describes, giving guidance and priorities in these functions, for the staff to support him effectively. Failure to consider these routine tasks can waste precious resources, squander opportunities, or even lead to failure. Many of these critical functions help to keep minor variances from becoming threats to mission accomplishment.

- Focus all assets on the decisive operation.
- Conduct continuous ISR, and target acquisition.

- Continue security operations.
- Adjust CCIR based on the situation.
- Adjust graphic control measures.
- Battle tracking.
- Airspace control measures.
- Continue liaison and coordination.
- Targeting.
- Manage movement and positioning of CS and CSS units.
- Terrain management.

6-89. *Focus All Assets on the Decisive Operation.* At every stage of the operation, all elements of the command must contribute to the decisive operation. All shaping operations must focus on setting conditions for it to succeed. During execution, situations may render shaping operations irrelevant or cause assets devoted to them to be out of position. The commander and his staff continuously survey all assets and ensure that they are in position and tasked to support the decisive effort, or that they are moving to a position where they can provide that support.

6-90. *Conduct Continuous ISR and Target Acquisition.* ISR is a continuous combined arms effort led by the operations and intelligence staffs in coordination with the battle staff. The commander's intelligence requirements drive this ISR effort. Requesting support or conducting intelligence reach answers some of these requirements. Additionally, broadcast dissemination can answer other requirements. Organic R&S assets collect against those requirements that no other means can answer or that the commander considers of critical importance. The commander should never keep reconnaissance or surveillance assets in reserve. They should always be looking for weaknesses in the enemy disposition and targets to acquire. When the main body directly engages the enemy, reconnaissance and surveillance assets should be working the flanks, looking beyond the area of close combat and seeking out opportunities for the commander to exploit. This does not mean that reconnaissance and surveillance assets never rest, maintain, or train. The commander phases or sequences his reconnaissance and surveillance assets to ensure that they are available when needed. He further continues to synchronize the efforts of all assets through dynamic retasking and changes to the integrated ISR plan (see FM 3-55).

6-91. *Continue Security Operations.* Security forces have specific missions for many operations. Once they complete these missions, security forces may pass off the fight to the main body. However, the commander should always look beyond the specific security missions and continually assess the security posture of the unit. If there are no friendly units on the flanks or rear of the friendly force or a gap develops between adjacent units, the commander covers them with some form of security. This security may take the form of a screen, guard, or cover. It may be an intelligence or surveillance system to detect enemy absence or presence that provides adequate warning to the commander of any approaching enemy forces.

6-92. *Adjust CCIR Based on the Situation.* CCIR and EEFI are updated continuously during an operation. The commander and his staff continuously re

view his CCIR during execution. They continue to analyze IR against the mission and updated commander's intent to identify and designate those IR that directly affect decision making and dictate the successful execution of tactical operations. As CCIR are answered or the situation changes, the commander develops and disseminates new CCIR to all subordinate and supporting units. The staff must allocate assets to collect against the new CCIR.

6-93. *Adjust Graphic Control Measures.* Full integration of forces and systems often requires that the unit change graphic control measures anytime there is significant movement of forces (to include SOF activity) within the AO. Moving graphic control measures provides as much flexibility as possible for all operating systems. For example, during a delay, the fire support coordination line (FSCL) should move back as friendly forces move to the rear to allow fire support to strike targets in front of friendly forces with minimum coordination. In offensive operations, the FSCL must move forward as friendly forces progress to avoid fratricide. The commander or staff should use graphic control measures sparingly and only for the minimum amount of time necessary. For example, the commander should cancel a no-fire area once the circumstances that required it have passed (see FMs 3-90, 3-07, and 1-02).

6-94. *Battle Tracking.* Battle tracking is monitoring designated elements of the COP that are tied to the criteria of success. Battle tracking requires special attention on the part of all staff officers. The operations officer must continuously monitor the progress of air and ground movement and expeditiously recommend changes as required (see FM 6-0.6).

6-95. *Airspace Control Measures.* Airspace control measures are closely allied to graphic control measures and battle tracking, but separate for discussion. These are not exclusively the concern of aviation units or staff officers or Army airspace command and control (A2C2). Other commanders, units, and staff officers remain informed of current airspace control measures and their integration with and effects on ground operations. They also consider the effects of ground operations on airspace control measures and adjust the latter as necessary. For example, the movement or repositioning of MLRS or ATACMS units generates airspace control requirements. See FMs 3-90 and 3-07 for considerations for ground forces and FM 3-52 for discussion of A2C2.

6-96. *Continue Liaison and Coordination.* Internal coordination continues because friction within friendly forces and actions by enemy forces continually threaten mission accomplishment. Headquarters must coordinate execution and adjustment decisions, to include external coordination, to restore necessary synchronization.

6-97. The command knows the location of adjacent, higher, subordinate, supporting, and supported units, what they are doing, what intelligence they collect, and whether there are unsecured approaches into his AO because of gaps between units. The commander knows immediately of any significant changes in the situation of adjacent units and evaluate these changes for their impact on unit operations. The command establishes positive controls (normally periodic reports) to ensure that communications with all units are functioning. The commander or staff reports any loss of required communications to higher headquarters immediately and take measures to reestablish

contact as soon as possible. While conventions prescribe who is responsible for establishing contact (from left to right, higher to lower, rear to front, and supported to supporting), any loss of contact results in both units simultaneously attempting to regain contact.

6-98. *Targeting.* During execution, the battle staff (targeting team) continually assesses the current situation, tracking decision points, possibly preparing a battle update briefing for the commander, and looking toward the future (whether that is 6, 24, 72 or more hours depends on the level of command and situation). Intelligence provides target development and other support to targeting. The targeting process provides a forum to reconsider engagement decisions after reviewing the commander's execution or adjustment (see below) decisions and modify or initiate actions within the targeting cycle to implement those decisions. The process normally occurs within the setting of targeting meetings. (See FM 3-09.24 for details.) The targeting meeting focuses and synchronizes the unit's combat power and resources toward finding, tracking, attacking, and assessing high-priority targets (HPT). The meeting—

- Verifies and updates the HPT list (HPTL).
- Verifies, updates, and retasks available collection assets for each HPT.
- Allocates delivery systems to engage each target.
- Confirms the assets tasked to verify the effects on the target after it has been attacked.
- Provides a forum for target attack nominations by joint systems.
- Synchronizes lethal and nonlethal actions (to include IO).

6-99. *Manage Movement and Positioning of CS and CSS Units.* The focus of any operation must be to mass the effects of combat power at the decisive point for the decisive operation. This requires not just maneuvering combat forces but also moving CS and CSS forces. The commander and his staff continuously look toward the decisive point, determine where to mass effects, and then plan and execute movement in time to position all forces, including CS and CSS. Using CS and CSS forces to support shaping operations must not interfere with movement to the decisive point. In the middle of executing an operation, it is easy to lose sight of the time required to reposition assets. Moving CS and CSS units during movement to contact, exploitation, and pursuit is particularly important. The staff must include these units in the movement formation, and the movement of maneuver units must not outpace that of critical supporting units. Staff officers must always remain aware of the time required to move assets for which they have oversight and initiate movement in time to get them to the right place at the right time. They must allow enough time to take into account the inevitable friction that accompanies moves during operations.

6-100. *Terrain Management.* The headquarters responsible for an AO must carefully track the location and land utilization of all units in its AO to deconflict land use. Terrain management must ensure that adequate space, including the use of routes, is available at the right time to support critical activities, especially the decisive operation within the AO. The staff must reverse plan to determine what space will be required by which units at what

time to support the decisive operation. It must then ensure that space is available to units when they need it.

6-101. **Planned Actions.** One form of execution decision is a permissive one—to allow planned actions to take place. This usually requires the commander or staff to recognize that a particular phase or other action directed in the OPORD has met preconditions for execution. Taking planned actions includes modifying them to fit the circumstances at the time of execution.

6-102. Branches and sequels are planned actions. The criteria of success used to evaluate progress help identify events that trigger executing branches and sequels.

Adjustment Decisions

6-103. **Adjustment decisions are those taken to modify the plan to respond to unanticipated threats or opportunities**. When the commander makes an adjustment decision, it will normally require resynchronizing operations across the BOS. Further, the commander may have to describe his visualization of the adjustment decision through guidance in the critical ongoing functions discussed above. The staff must consider the impact of his decision in their areas of responsibility. The commander pays particular attention to the effects of adjustment decisions on targeting and give sufficient guidance to initiate and support the targeting process. Adjustments may take one of three basic forms:
- Reallocating resources
- Changing the concept
- Changing the mission

6-104. *Reallocating resources*. The simplest adjustment is to reallocate resources. This provides additional assets to the decisive operation, although it may also be necessary for a shaping operation. The commander can allocate additional combat support, such as artillery, or reinforce with additional combat units. He avoids reinforcing a failing effort. If the operation is failing, the commander should not strengthen it without a clear indication that additional resources will result in success. On the other hand, he should reinforce success if this creates opportunities for more success.

6-105. *Changing the concept*. Changing the concept of the operation adjusts the way the commander conducts the operation without changing the mission. Most often, this involves changing the decisive operation. In this case, the commander changes the decisive operation to exploit an unplanned opportunity or counter an unexpected threat or changes it from an unsuccessful (or less successful than planned) decisive operation to a more successful shaping operation (or force).

6-106. If a shaping operation is having significant success beyond that anticipated, the commander may consider shifting the decisive operation to it. However, he should only do so if this leads to accomplishing the mission in a manner superior to that of the original plan. He may also shift it if the enemy strikes unanticipated blows that threaten to defeat the operation. When shifting the decisive operation, the commander also shifts all priorities of support and all available combat multipliers to the new decisive operation.

He shifts the decisive operation in accordance with the higher commander's intent.

6-107. Among the commander's most important adjustment decisions are those concerning the reserve. The most important decisions commanders make about their reserve forces are what type of forces will constitute the reserve and when and where to commit it. Employing reserves successfully requires anticipation. This anticipation helps the commander task organize, position, and move reserves in a way that minimizes any loss of momentum on their commitment. When the commander commits the reserve, he designates in his FRAGO another organization from within his force structure to be the temporary reserve until the situation is stabilized or eliminated. He should create another reserve to ensure he has resources to react to any unforeseen situation.

6-108. *Changing the mission.* When the commander sees during the operation that he cannot resolve a problem hampering the accomplishment of his mission, even with reallocating resources or changing the concept, he may have to change his mission. He should do this only as a last resort, and changing the mission must still accomplish the higher commander's intent. Of the three adjustment decisions, this one presents the greatest problems of resynchronizing the force's actions with the other forces in an operation.

6-109. Methods for making adjustment decisions fall along a continuum shown in Figure 6-7. The key factor is the time available to make a decision and initiate action. The other factors are shown in Figure 6-6. As underlying factors push the method further to the right side of the continuum, at some point the methodology of the MDMP no longer applies. However, the context provided by the order developed by the MDMP allows even major adjustments without having to redo the entire order.
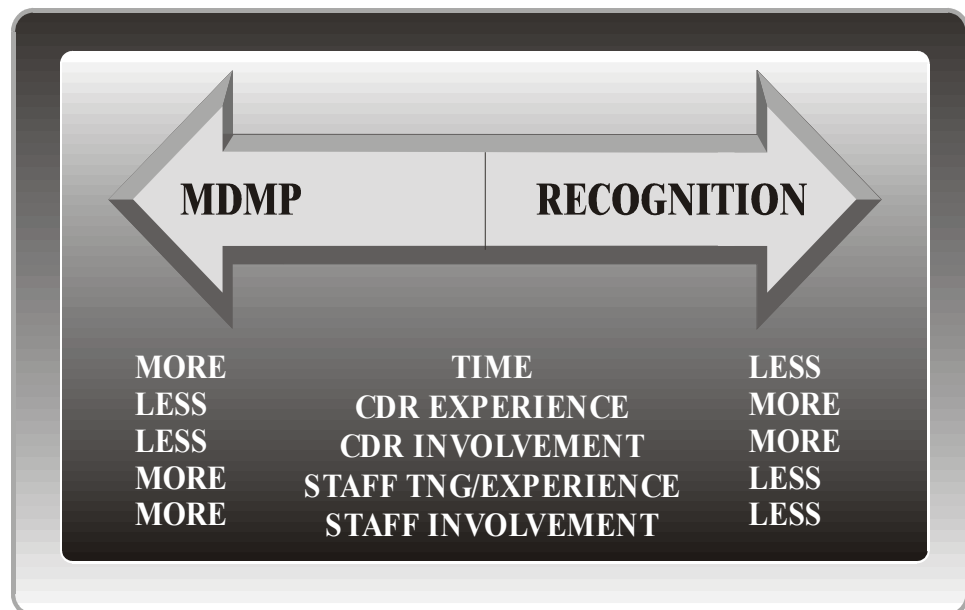

MORE	TIME	LESS
LESS	CDR EXPERIENCE	MORE
LESS	CDR INVOLVEMENT	MORE
MORE	STAFF TNG/EXPERIENCE	LESS
MORE	STAFF INVOLVEMENT	LESS

Figure 6-6. Adjustment Decision Methods

6-110. When making adjustment decisions about a novel or complex situation, if time is available, the MDMP, either full or in a time-constrained environment as outlined in FM 5-0, is preferred. It has all the advantages (and disadvantages) of analytic decision making discussed in Chapter 2. It is also preferred for inexperienced staffs. When there is not enough time for the full MDMP, decision making becomes more intuitive, using the focused COA or recognition methods. The commander prefers these methods when there is not enough time for thorough analysis of the situation or when a satisfactory solution to the problem is so obvious to him that it does not require rigorous analysis.

6-111. **Focused COA.** The focused COA, an MDMP method used in time-constrained situations, is discussed in detail in FM 5-0. This method also uses intuitive decision making, discussed in Chapter 2. It starts with the commander using his situational understanding to visualize and mentally simulate a single COA to solve a problem. He then directs the staff to analyze and refine it into an order. The commander solves inadequacies detected during analysis through revising or modifying the COA rather than developing a new COA.

6-112. **Recognition.** Commanders reach recognition decisions when the situation is such that they can determine the solution to the problem immediately, with little or no analysis of alternatives or outcomes. Recognition decisions do not employ the MDMP, although they are grounded in the IPB, estimates, and the order that initiated the operation. They result from intuitive decision making, discussed in Chapter 2. They typically occur when there is little or no time available for deliberating, significant progress problems require an immediate solution, the situation and causes of the lack of progress are clear and recognizable, or when one solution is obvious to the commander. This approach focuses on situational understanding, assessing significance of variances, and selecting and refining an acceptable decision mentally instead of comparing multiple options to select an optimal one.

6-113. This method relies heavily on an experienced decision maker for its validity. The staff issues FRAGOs and serves to synchronize the operation as much as possible. This method requires the greatest involvement of the commander and the least from the staff.

6-114. This is the most common decision-making process during execution of fast-paced combat operations. A commander will make dozens of decisions in the course of execution, and most will be recognition decisions. Using the MDMP for decisions during execution is the exception, not the rule.

DIRECT

6-115. Land forces do not respond to a decision until directed to do so. Subordinates then perform their own decision making and direct actions by their forces. Any change to a plan requires changes in applying combat power and resynchronization to mass effects on the enemy. In addition, the staff ensures continuity of the operation. The table below summarizes the range of possible actions with respect to decisions made during execution.

TYPE DECISION	SITUATION	ACTION
EXECUTION	**Minor Variances from the Plan** Plan working well. Variances in criteria of success are within acceptable limits.	**Execute Planned Actions** CDR or responsible person decides which planned actions best meet situation and directs their execution. Staff completes follow-up actions. Decision may simply be permissive; FRAGO not normally issued.
EXECUTION	**Anticipated Situation** Variances within limits for sequel.	**Execute Branch or Sequel** CDR or staff review branch/sequel plan if prepared; CDR receives assessments and recommendations for modifications to plan, and issues guidance or decision for further actions. Participation by CDR and refinement of branch/sequel determined by time available. Staff completes follow-up actions. FRAGO issued if modifications to branch/sequel are complex.
ADJUSTMENT	**Unanticipated Situation—Friendly Success** Significant unanticipated positive variances are advantageous to the friendly forces' for mission accomplishment. **Or** **Unanticipated Situation—Enemy Threat** Significant, unanticipated negative variances are not advantageous to the friendly forces for mission accomplishment.	CDR recognizes threat/opportunity and determines time available for decision making. Selects decision making method. If no time for MDMP, outlines decision on single COA for staff to refine or directs actions by subordinates to counter threat/exploit opportunity and exercise initiative IAW higher CDR's intent. Normally will not attempt to restore plan. Verbal WARNO or FRAGO issued to subordinate CDRs. Staff resynchronizes operation, modifies criteria of success, and commences assessing operations for progress IAW new decisions.

Apply Combat Power

6-116. To effect execution or adjustment decisions, the commander directs action that applies combat power. The normal means for directing changes in action during execution is the FRAGO. Modern INFOSYS enable the C2 system to automate production of orders and associated graphics for dissemination, especially for execution decisions that use data already stored in the common database.

Synchronize Operations

6-117. After the commander makes an execution or adjustment decision, the staff must synchronize the operation to apply combat power to maximum effects on the enemy. This involves synchronizing the operation in time, space, and purpose across all BOS to seize, retain, or exploit the initiative. This includes informing, integrating, and deconflicting actions by individual staff sections and subordinate and supporting forces during operations to reduce duplication, confusion, and problems. In particular, the staff would use the

commander's directions to recommence the targeting process. At lower eche-lons, the targeting process can serve as a synchronization tool. After all tar-geting (decide, detect, deliver, and assess [D3A]) decisions have been made, the staff must obtain the commander's approval. It then prepares FRAGOs for subordinate units with new tasks and essential fire support tasks, and re-hearses if time permits. It begins (continues) tracking targeting actions using the products (Target Synch Matrix, or other) the unit has adopted.

6-118. Modern INFOSYS can reduce the penalties of resynchronizing opera-tions after an adjustment decision by adjusting supporting plans through automation. Synchronization is not an end in itself. Excessive concern with synchronization can waste resources and opportunities. Synchronization should be pursued only to the extent required to assure success and not at the expense of speed and flexibility. Often speed of execution will generate more combat power than detailed synchronization.

Maintain Continuity

6-119. The commander or his staff considers two dimensions to maintain con-tinuity when directing actions during execution. First, make only those changes to the current operation necessary to solve the problem. This ensures that as much of the current plan as possible remains the same, which in turn means that subordinates have to deal with the minimum number of changes. The fewer the changes, the greater the chance that they will be executed suc-cessfully. The second dimension of maintaining continuity is to ensure that changes do not preclude options for future operations. Normally this dimen-sion applies only to higher echelons that have an organic planning capability. Figure 6-7 shows a concept for adjusting or planning future actions or opera-tions.
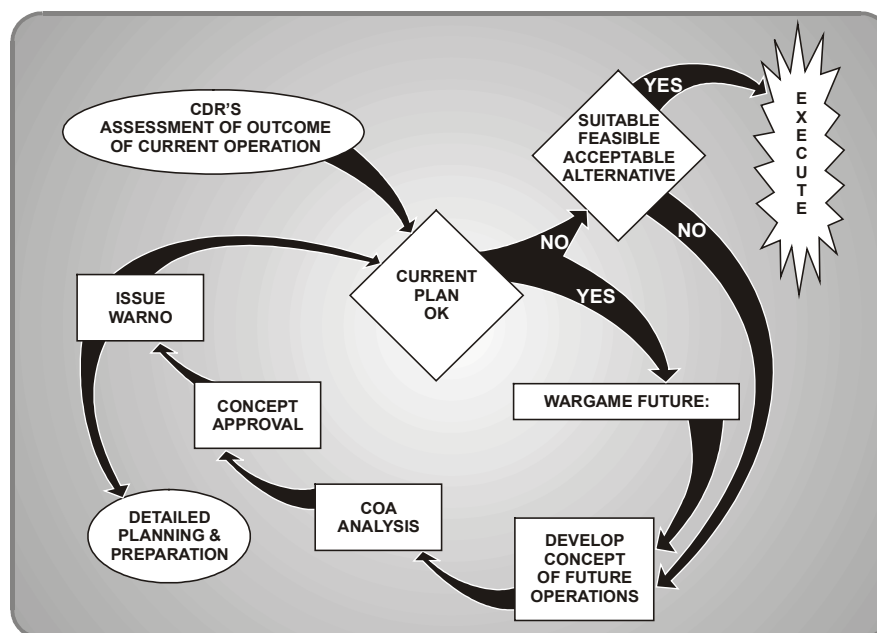
Figure 6-7. Planning Future Operations

6-120. Using the above method for planning future operations depends on options developed earlier during planning or hastily developed for the current situation. It depends on validating earlier assumptions and updating planning factors and staff estimates. The concept of future operations may be wargamed using updated planning factors, estimates, and assumptions that project the situation in time, visualize the flow of battle, and project the outcomes of future engagements. Decision making during operations is a continuous process, not a discrete event. Commanders and staffs prioritize carefully between current and future operations.

CONCLUSION

6-121. Establishing a framework for exercising effective C2 in operations to accomplish missions is the goal of C2 doctrine. The key to exercising C2 lies in the ability of the commander to make effective decisions based on information management and directing actions to apply military power to execute those decisions. The value of C2 is its contribution to mission accomplishment through supporting the commander in assessing, planning, preparing for, and executing effective military operations with assigned and available forces.

The Observe, Orient, Decide, Act (OODA) Cycle

OODA is a description of the basic sequence that occurs during operations. This concept relies heavily on extensive research into adversarial "decision-action" cycles in aerial combat. Certain conclusions from the OODA cycle apply to any two-sided conflict, whether between individuals in hand-to-hand combat or large military formations. Used to describe C2 of land forces, however, it vastly simplifies an extremely complicated process. Nevertheless, it can show how C2 works. It emphasizes the importance of the commander as the decision maker—the crucial element in C2.
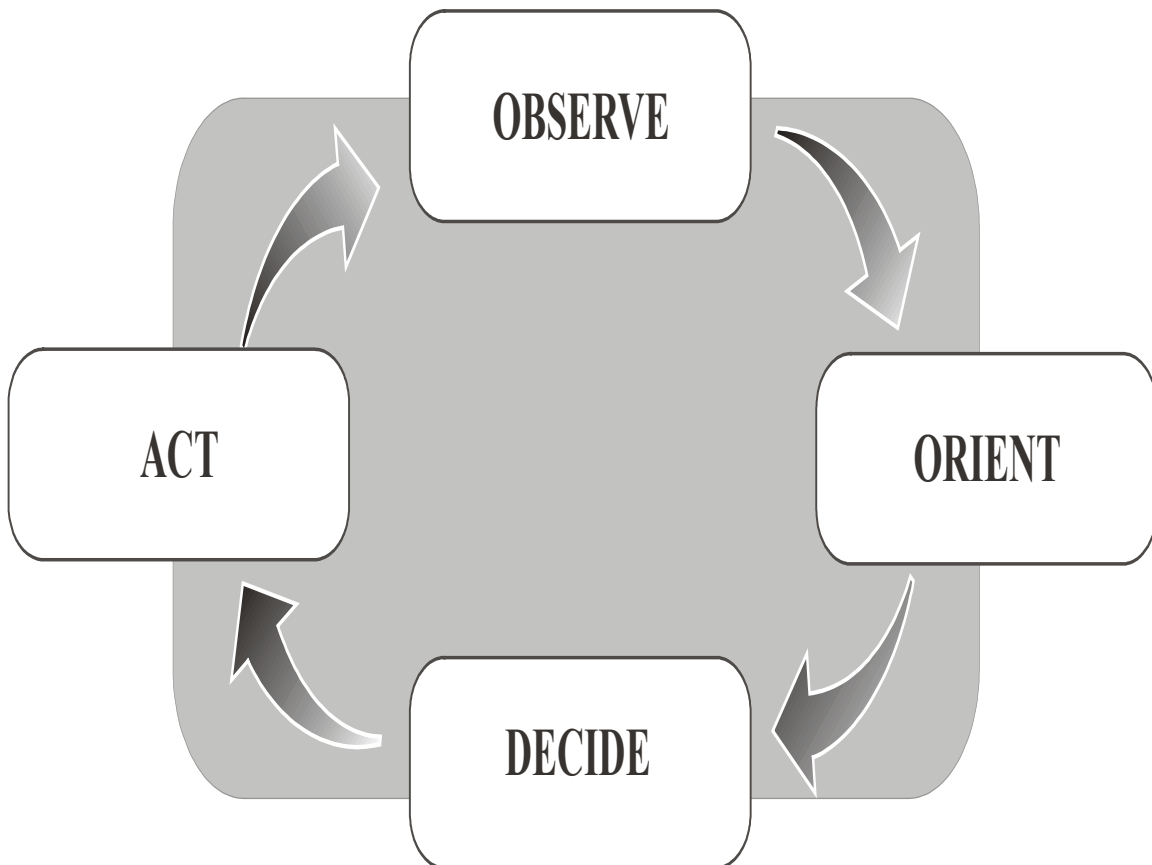

Figure A-1. The OODA Cycle

A-1. During operations, the commander first *observes* the environment—that is, he collects information. He learns about his own forces' status and situation, the environment, and the enemy through intelligence, surveillance, and reconnaissance means, information systems, and reports from other head

quarters. Sometimes he actively seeks information; sometimes the C2 system disseminates it to him.

A-2. Having observed the situation, he next *orients* to it by achieving situational understanding based on the common operational picture (COP). In this phase, the commander uses the information to develop his visualization. The commander's orientation, however, is rooted in what he *believes* to be the current reality of the area of interest. This image of reality derives from his direct observation, sensors, INFOSYS, and reports from other commanders and headquarters. Since these sources of information are all imperfect and may be manipulated by the other side—creating fog—his perception of reality will inevitably differ from absolute reality. Thus, a commander constantly strives to validate his visualization. At the same time, he recognizes the inherent uncertainty in this visualization and the advantages to gain by increasing the level of uncertainty in his opponent's visualization through employing IO. The outcome of orientation should be improved situational understanding.

A-3. Based on his orientation, he conducts planning to decide what to do and how to do it with assigned and available forces. That decision may take the form of an immediate reaction or a deliberate plan. He puts the decision into action by disseminating it as execution information—orders or plans—supervising to ensure proper execution and assessing results through feedback in the form of the COP. This returns him to the observation phase. Having acted, changed the situation, and caused the enemy to react, he observes the enemy reaction and his own forces' actions, and begins the cycle again.

A-4. The OODA cycle is continuous, rather than sequential, and all parts are active simultaneously. The commander collects information, assesses, and makes decisions at the same time subordinate commanders execute actions. All opposing sides also engage in the cycle simultaneously during an operation, as do other friendly headquarters, to include subordinates. All of these cycles—on all sides and at all levels—affect the reality of operations continuously.

A-5. The OODA cycle reflects C2 as a continuous process. It demonstrates that the antagonist who can consistently and effectively cycle through the process faster, that is, maintain a higher tempo, gains an ever-increasing advantage with each cycle. With each cycle, the slower antagonist falls further and further behind and becomes increasingly unable to cope with the deteriorating situation. With each cycle, the slower antagonist's actions become less relevant to the true situation; his C2 deteriorates because his decisions become less and less relevant to the situation, either in substance or in timeliness. The important lesson of the OODA cycle is to generate tempo and shorten the time needed to plan, prepare, and execute. It is not absolute speed which matters, but speed relative to the enemy: the aim is to be faster than the enemy, which means interfering with the enemy's C2 as well as streamlining friendly C2. The speed advantage does not necessarily have to be a great one: a small advantage exploited repeatedly can quickly lead to decisive results. The ability and desire to generate a higher tempo does not negate the willingness to bide time when the situation calls for patience. The aim is meaningful—not merely rapid—action. A decision to act is meaningful

only if that act will have a significant effect on the enemy; rapid but ineffectual actions accomplish nothing.

A-6. There are some cautions to applying the OODA cycle directly to land forces. The OODA cycle initially explained fighter combat against superior enemy aircraft, not land operations. Others questioned whether the model truly reflected a decision-execution cycle. Captain Robert L. Bateman pointed out that when the US pilot decided to initiate action, he directly maneuvered his aircraft. Land force commanders, on the other hand, do not directly initiate actions, but they issue directions to subordinate forces that set off succeeding OODA cycles. Land forces must execute this succession of cycles before acting.

A-7. The OODA cycle demonstrates the validity and need of accomplishing the multiple activities in deciding and acting before the enemy can effectively react to friendly actions. It especially illuminates decision making during execution. The continuous cycle of **see first**, **understand first**, **act first**, and **finish decisively** reflects the OODA cycle and places emphasis on specific requirements of modern operations. "See first" equates to the "observe" activity of the OODA cycle but with emphasis on accomplishing it before the enemy in the battlespace. Similarly, "understand first" equates to "orient," but emphasizing again accomplishing it before the enemy, through collaboration, discussion, and sharing of knowledge related to the common operational picture. This includes understanding the intent of enemies and others who attempt to shape our military operations to their benefit or to our disadvantage. "Act first" includes both the "decide" and "act" activities of the OODA cycle, as "acting" requires decisions, whether analytic or intuitive, to guide actions. The commander, through the C2 system, synchronizes and integrates the combined arms team as well as directing execution within his intent and guidance. Finally, "finish decisively" applies specifically to the "act" activity of the OODA cycle by emphasizing applying relentless pressure, following up and exploiting initial blows, and subordinates exercising disciplined initiative.

Appendix B

Information

The most important element of control is information, but information alone has no meaning. To expand the understanding of information discussed in Chapter 3, this appendix discusses the following related concepts. First is the cognitive hierarchy of information. Second are the subject categories of information—METT-TC—and categories of purposes of information within C2. Third is relevant information (RI)—and its associated categories of commander's critical information requirements (CCIR) and information requirements (IR)—and criteria to evaluate RI.

COGNITIVE HIERARCHY

Figure B-1. Cognitive Hierarchy

B-1. **Information is defined as the meaning humans assign to data.** The cognitive hierarchy defines four different levels of meaning assigned to data, transforming information at each level. A principal task of information management (IM) is to collect and then transform this information by adding progressively greater meaning at each level, raising it from the lowest level, data, to the highest, understanding. With understanding, the commander can make better decisions and regulate action by his forces more effectively. Each level of information in the hierarchy has a different value in supporting C2. As an element of RI, intelligence is embedded in the second (information) and third (knowledge) levels of information to provide it meaning, and intelligence is critical to facilitate understanding. The distinctions between categories of information are not always clear. However, it is important to realize that there are differences; knowledge is usually more valuable than data.

B-2. **Data** is the lowest level—**raw signals from the environment not processed in any way**. It includes signals or sensing detected by a sensor or collector of any kind (human, mechanical, or electronic) or communicated between any nodes in a system. Data is rarely useful until it is processed to give it meaning. The exception is combat information. **Combat information is unevaluated data gathered by or provided to a commander that, due to its highly perishable nature or the critical nature of the tactical situation, cannot be produced as intelligence in time to satisfy the commander's intelligence requirements.** Because of its nature, collectors will often amass large amounts of unimportant data. Until data is processed, it is often difficult to tell if it is relevant. However, as with all information, collectors should focus, as much as possible, on only that data needed to build the common operational picture (COP).

B-3. The next level of **information consists of data that has been processed to provide meaning**. Processing includes filtering, fuzing, formatting, organizing, collating, correlating, plotting, translating, categorizing, and arranging. Information is useful for immediate application to avoid threats, acquire targets, or take other immediate actions, and it forms the basis of the COP.

B-4. **Knowledge is information analyzed to provide meaning and value or evaluated as to implications for the operation**. Cognition—the act of learning, of integrating from various pieces of information—allows the commander and staff to generate knowledge. As a result, various pieces of information that have been integrated and interpreted begin to build a picture of the situation. At this point a product useful for decision making forms. The commander and staff can recognize relationships between events in the area of interest, fathom the way an enemy thinks, and forecast what he might do; moreover, the commander and the staff begin to recognize what they do not yet understand—identifying the uncertainty that exists. Knowledge can often be represented on the COP.

B-5. **Understanding comes from knowledge that has been synthesized and had judgment applied to it in a specific situation to comprehend the situation's inner relationships**. The commander may know what is happening and why. He and others apply judgment to transform knowledge into understanding. Judgment is a purely human skill, based on experience, expertise, and intuition. While the staff may support the commander in

achieving understanding, the most important understanding is that which the commander achieves. When the commander achieves situational understanding, he sees patterns emerging from events in the area of interest, and he anticipates consequences of both his force's actions and the enemy's. While true understanding should be the basis for the commander's decisions, he must recognize that uncertainty and time preclude perfect situational understanding before deciding and acting. The commander can rarely convey understanding through the COP; he often disseminates it as his intent, planning guidance, or CCIR.

B-6. The C2 system transforms information as it moves up the hierarchy. Processing transforms data into information. Because processing involves rote application of procedure, machines may process many types of data more quickly and efficiently than people. Cognition turns information into knowledge. To a degree, cognition relies on rules of logic or deduction so expert systems and artificial intelligence can assist with cognition to some extent by helping to integrate pieces of processed data. Cognition is primarily a human mental activity—not a procedural act such as processing but an act of learning. Judgment, a purely human skill, transforms knowledge into understanding. The C2 system cannot reduce judgment to procedures or rules.

B-7. Integration occurs as information moves up the hierarchy from data to understanding. The commander and C2 system piece together multiple bits of data to make information; numerous pieces of information become knowledge. Finally, multiple forms of knowledge distill under judgment into understanding. This integration is essential to reaching understanding because it involves reducing the total number of bits to consider at any one time. If integration did not occur, the commander would be overwhelmed by bits of data if considered singly, or overloaded by the staggering number of factors to consider.

B-8. Commanders need knowledge and understanding to make effective decisions. The goal in IM should not be processing vast amounts of data but approaching understanding as soon and as closely as possible. Commanders have to make the final judgments, but control can provide easily assimilated information that is as close to final form as possible.

FACTORS OF METT-TC

B-9. **The six factors of METT-TC—mission, enemy, terrain and weather, troops and support available, time available, and civil considerations—make up the major subject categories into which RI is grouped for military operations.** The commander and staff consider RI for each category in all military operations. Relative impact may vary, but the C2 system must consider them all.

MISSION

B-10. The mission is the task, together with the purpose, that clearly indicates the action to be taken and the reason therefor (JP 1-02). It is always the first factor. A thorough understanding of the mission provides the focus for planning, as well as decision making during execution. The commander analyzes his mission or decisions in terms of the higher commander's intent, mis

sion, and concept of operations. (See FM 5-0 for a detailed discussion of mission analysis.) As the commander allocates tasks and resources to his subordinates, he ensures that his decisions support his decisive operation and his higher commander's intent. He and the staff view all the other factors of METT-TC with respect to their impact on mission accomplishment.

B-11. The mission statement defines the *who, what, when, where*, and *why* of the operation. A thorough understanding of *why* the unit is conducting an operation provides the focus for the planning process. The commander analyzes his mission in terms of the intent of his two higher commanders and their concept of operation. He also considers the missions of any adjacent units to understand their significant contributions in relation to his unit (See FM 5-0).

B-12. When assigning missions to subordinates, the commander ensures all subordinate missions support his decisive operation and his higher commander's intent. Missions to subordinate commanders should always allow the greatest possible freedom of action, constrained only by those measures that ensure coordination of the necessary effects. Ideally, the commander assigns subordinates a mission and an area of operations (AO) without further restrictions. Some operations require greater control and coordination, such as a combined arms breaching operation.

B-13. The commander considers possible subsequent missions, focusing his planning resources on the most probable when analyzing his mission. He plans to exploit success and aggressively looks for these opportunities, keeping within his commander's intent.

ENEMY

B-14. The second factor to consider is the enemy—his dispositions (to include organization, strength, location, and tactical mobility), doctrine, equipment, capabilities, vulnerabilities, and probable courses of action (COAs). FM 2-01.3 outlines techniques for determining enemy COAs.

B-15. The enemy, terrain and weather, and civil consideration inputs of the COP come from many sources, to include the full array of ISR assets, plus combat information. Of all the RI, intelligence (information on the threat and environment) is inherently the most uncertain; therefore the G2/S2, with a supporting element (except at battalion level), must manage the collection process very carefully. For the commander to visualize the threat force, he often needs very detailed intelligence, such as the threat's speed of advance, tempo of operations, and strengths and weaknesses. Technology must display the enemy force and significant aspects of the environment within the same digital frame of reference as friendly force information.

B-16. Once the commander launches an operation, the enemy will attempt to determine friendly COAs and react to defeat them. The enemy will react to every friendly move. When the enemy has the initiative, all friendly reactions to enemy actions will result in an enemy counteraction. Consequently, the friendly commander can never assume that his operation will unfold as planned. The enemy always has opportunities to unhinge the operation. The commander must look for enemy weakness and strengths in order to deny the enemy options and keep them reacting to his maneuvers. The commander

must analyze his command for weaknesses and vulnerabilities that the enemy will seek to exploit and then act to counter them.

TERRAIN AND WEATHER

B-17. Terrain and weather are natural conditions that man has only a limited ability to influence, although terrain includes man-made infrastructures such as roads and cities. Human modification of terrain can change the shape of the land or its trafficability; it may also change local weather effects by modifying local wind or water pathways. The commander must consider these man-made features and their effects on natural terrain features and climate when he considers terrain. In addition, the commander must consider the effects of man-made and natural terrain in conjunction with the weather on friendly and threat operations. The second step of the intelligence preparation of the battlefield (IPB) process helps the commander in this complex task. These factors are relatively neutral in comparison with those of friendly and enemy forces because they favor neither friendly nor enemy forces unless one side is better prepared to operate in the environment or is more familiar with it (for example, fighting on friendly territory). The commander analyzes terrain and weather for favorable and unfavorable conditions. The enemy commander analyzes the same conditions.

Terrain

B-18. The terrain has a direct impact on selecting objectives; location, movement, and control of forces; effectiveness of weapons and other systems; and protective measures. Effective use of terrain diminishes the effects of enemy fires, increases the effects of friendly fires, and facilitates surprise. The effects of terrain on operations vary depending on whether a force is on the defense or the offense. For example, cross-compartmented terrain favors the defender and hinders the attacker.

B-19. An appreciation of terrain—the ability to analyze its impact on operations—is one of the most important skills a commander can possess. He considers all aspects when analyzing terrain, focusing on the ones most relevant to the specific situation. Whenever possible, the commander conducts a personal reconnaissance of the terrain where he plans to operate. IPB is critical to analyzing and understanding the effect of terrain on friendly and enemy COAs. Information on terrain must include not only data such as features, slope and elevation, soil conditions, and vegetation, but also their impact on vehicle and human speed, maintenance, tempo, trafficability, and maneuverability by various types of forces. Engineer topographic teams provide terrain analysis products to help the commander visualize the impact of terrain on his plan. These teams must regularly update terrain information to reflect the effects of combat, as well as of nature. Terrain also includes environmental considerations, that is, the spectrum of environmental media, resources, or programs that impact on and are affected by military operations. Terrain is normally analyzed using the five military aspects of terrain, expressed in the acronym OAKOC:

- Observation and fields of fire.
- Avenues of approach.
- Key and decisive terrain.

- Obstacles.
- Cover and concealment.

B-20. **Observation and Fields of Fire. Observation is the condition of weather and terrain that permits a force to see the friendly, enemy, and neutral personnel and systems, and key aspects of the environment**. The commander evaluates his observation capabilities for electronic and optical line-of-sight surveillance systems, as well as unaided visual observation. The highest terrain normally provides the best observation. For this reason, elevated terrain often draws enemy attention. **A field of fire is the area that a weapon or group of weapons may cover effectively from a given position.** A unit's ability to observe directly relates to its field of fire.

B-21. The commander's analysis of observation and fields of fire considers many factors, including the location and effect of dead space. **Dead space is that area within the maximum range of a weapon system, radar, or observer that cannot be covered by direct fire or observation from a particular position because of intervening obstacles, the nature of the ground, trajectory characteristics, or limitations in the system's traversing, elevation, and depression capabilities.** The commander can identify potential enemy and friendly engagement areas through observation and fields of fire.

B-22. **Avenues of Approach. An avenue of approach is the air or ground route leading to an objective (or key terrain in its path) that an attacking force can use.** The size and type of force that can use it characterizes an avenue of approach, for example, a dismounted infantry company avenue of approach, an armored division avenue of approach, or an attack-helicopter company avenue of approach. A good avenue of approach allows ease of movement, contributes to the protection of the force by providing adequate maneuver space, good cover, concealment, observation, fields of fire, and avoids obstacles. Avenues of approach normally incorporate key terrain or deny its use to the enemy.

B-23. Corridors (ridge and valley systems) can either form natural avenues of approach, if they run toward an objective, or obstacles to movement if they run perpendicular to the direction of movement, forming cross compartments. Troops using valleys as avenues of approach must control the adjacent ridges to protect their movement. Close or broken terrain, heavy woods, built-up areas, and abrupt changes in elevation hinder heavy forces but provide cover and concealment for light forces. Although open, rolling terrain provides little concealment and cover to light forces, it is suited for rapid advances by heavy formations.

B-24. **Key Terrain and Decisive Terrain. Key terrain is any locality or area, the seizure or retention of which affords a marked advantage to either combatant in a given course of action**. Terrain adjacent to the commander's area of operation may be key if its control is necessary to accomplish the mission. **Decisive terrain, when present, is key terrain whose seizure and retention is mandatory for successful mission accomplishment.** Decisive terrain is relatively rare and is not necessarily a characteristic of every situation. If the commander identifies decisive terrain,

he specifies it in his concept for the operation to communicate its importance. Decisive terrain normally is not dependent on the COA selected, while key terrain is COA dependent.

B-25. **Obstacles. Obstacles are any physical characteristics of the terrain that impede the mobility of a force.** Obstacles can exist naturally, be man-made, or a combination. Obstacles fall into two categories: existing or reinforcing. The types of existing obstacles are natural, man-made, and military. The types of reinforcing obstacles are tactical and protective. A reinforcing obstacle's effectiveness varies with the type of force negotiating it, the fires covering it, the nature of the obstacle, and the weather. (See FM 3-34.1 for examples of each types of obstacles.)

B-26. **Cover and Concealment. Cover is protection from the effects of fires. Concealment is protection from observation and surveillance.** The commander considers cover and concealment from friendly and enemy perspectives to identify potential friendly and enemy assembly areas, routes and axes used to move forces, locations of assault positions, ambush locations, and battle positions. Terrain that offers cover and concealment limits fields of fire.

Weather

B-27. Weather and climate have direct and indirect effects on conducting tactical operations, which the commander must assess and anticipate. Weather is a shorter-term, but less predictable, phenomenon than climate for planning purposes. Weather affects the condition and capabilities of soldiers and weapon systems, to include trafficability, visibility, obstacle emplacement times, and munitions performance. Direct effects are those that immediately affect the operations of friendly or enemy forces, and the relative effects on each force are a function only of preparation by the force rather than favoring one or the other. The indirect effects of weather and climate are those on other elements of the environment—terrain and human, military and nonmilitary—which either hamper or help military operations of one or both forces. Weather can create opportunities as well as difficulties for each side. For example, bad weather can provide concealment for a moving force while making construction of fighting positions more difficult for the defender. Simultaneously, bad weather helps the defender by making offensive movement more difficult. Stable weather conditions favor enemy use of chemical and/or biological agents. Cold weather slows both men and machines, but it also freezes water and allows the force to move across normally wet areas that would otherwise be passable only with great difficulty.

B-28. Climate is a longer-term but more predictable phenomenon. Planners consider climate with longer-range plans, while most tactical planning during operations considers weather. The commander considers ways to use weather (and climate) to his advantage.

TROOPS AND SUPPORT AVAILABLE

B-29. The fourth factor of METT-TC is the number, type, capabilities, and condition of available friendly troops and support. The commander wants to use the full capabilities of available troops—task organized as an effective

combined arms team, reinforcing the strengths and compensating for the weaknesses of available forces. This includes not only all available Army combat, combat support, and combat service support troops but also available supplies and support available from joint, multinational, and interagency forces. It also includes support provided by Department of Defense and Department of the Army civilians and contractors employed by organizations, such as the Defense Logistics Agency and the Army Materiel Command.

B-30. Every commander should know the disposition and situation of his forces without having to visit each unit on the ground. He should generally maintain information of friendly forces two levels below him. He should maintain understanding of subordinates' readiness, including maintenance, training, strengths and weaknesses, commanders, and logistic status. Thus, visits on the ground should serve to confirm reports or to provide direct understanding of the decisive points or factors of the operation. Moreover, personal visits provide insights into the intangibles that data and reports cannot capture.

B-31. The commander considers his available troops when analyzing whether he has enough forces to accomplish his mission. If he determines that he does not, he requests additional resources from his higher commander. Increasing assets in one area may compensate for a shortage of assets in another. In mission command, a commander must ensure that when he assigns a mission to a subordinate, he provides him with the right mix of troops to accomplish the mission. Differences in mobility, protection, firepower, equipment, morale, experience, leadership, and training make some units more suitable for specific missions than others, affecting how the commander employs them. Even the personalities of subordinate commanders are important. A bold commander may be a better choice for a pursuit mission, while a methodical commander may be a good choice to command a unit breaching an extensive obstacle.

TIME AVAILABLE

B-32. The commander and his staff must be aware of the amount of time and space it takes their units to plan, prepare, and execute operations. This includes the time necessary to assemble, deploy, move, converge, and mass combat power effectively. They must also consider time with respect to the enemy. The time available is always related to the enemy's ability to execute his operations process and his time to react effectively to friendly actions. The time available to conduct the operations process varies with the size of the unit and its mission. Time available also depends on useful and usable time. For example, for some activities, hours of darkness would be useable time, while for others darkness would not be useful for action.

B-33. Consideration of time available further includes the time subordinate commanders and units require for their own operations process. FM 5-0 discusses time as a factor in planning in detail. The parallel planning process is a good place to start. A commander can save additional time by taking advantage of standing operating procedures (SOP), preplanned actions, and habitual relationships. SOP promote understanding and teamwork between commander, staff, and subordinates. Commanders can rehearse and refine the execution of planned actions. Such actions include battle drills and proce

dures, such as refuel on the move (ROM) site operations. Habitual relationships in task organization and standard supporting plans, such as rear area security plans, also save time.

CIVIL CONSIDERATIONS

B-34. **Civil considerations are how the man-made infrastructure, civilian institutions, and attitudes and activities of the civilian leaders, populations, and organizations within an area of operations influence the conduct of military operations.** They are a factor in all offense, defense, stability operations, and support operations. Civil considerations generally focus on the immediate impact of civilians on the operation in progress, but also consider larger, long-term diplomatic, economic, and informational issues at higher levels. At the tactical level, they directly relate to key civilian areas, structures, capabilities, organizations, people, and events within the AO. Discounting these can tax the resources of transition to follow-on elements. If the military's mission is to support civil authorities, civil considerations define the mission. Because of the world's increasing urbanization, attitudes and activities of the civilian population in the AO influence the outcome of military operations. Civil considerations of the environment can either help or hinder friendly or enemy forces; the difference lies in which one has taken the time to learn the situation and anticipated possible impacts on the operation. These considerations can influence the choice of a COA and the conduct of operations.

B-35. The effects of some civil considerations may merely impede the forces' activities, while others affect the soldiers and prevent them from functioning to their full capability. Anticipation and preparation can often overcome or even turn these effects to friendly advantage. This holds particularly true for civil considerations, where careful preparation can turn parts of civil populations into advantages for friendly forces' and disadvantages for enemy forces' operations.

B-36. An appreciation of civil considerations—the ability to analyze their impact on operations—enhances the commander's selection of objectives; location, movement, and control of forces; use of weapons; and force protection measures. Civil considerations are analyzed using the acronym ASCOPE. The six characteristics are—

- Areas
- Structures
- Capabilities
- Organizations
- People
- Events

B-37. **Areas.** Key civilian areas are localities or aspects of the terrain within a commander's AO that are not normally militarily significant. This is an application of OAKOC from a civil perspective. The commander must analyze key civilian areas in terms of how they affect the military's mission as well as how military operations impact on these areas. Examples of key civilian areas that a commander should analyze are: areas defined by political boundaries

such as districts within a city, municipalities within a region; locations of government centers; social, political, religious, or criminal enclaves; agricultural and mining regions; trade routes; and possible sites for the temporary settlement of dislocated civilians or other civil functions. Failure to consider key civilian areas can seriously affect the success of any military mission.

B-38. **Structures.** Existing structures take on many significant roles. Some, such as bridges, communications towers, power plants, and dams, are traditional high-payoff targets. Others, such as churches, mosques, national libraries, and hospitals, are cultural sites that international law or other agreements generally protect. Still others are facilities with practical applications—such as jails, warehouses, schools, television and radio stations, and print plants—and may be useful for military purposes. Some civilian infrastructure factors such as the location of toxic industrial materials may further influence operations. Analyzing structures involves determining the location, functions, capabilities, application, and consequences of supporting military operations. Engaging a structure for military purposes often competes with civilian requirements for the structure and requires a careful weighing of military benefits against the future burden borne by the commander in military-controlled areas.

B-39. **Capabilities.** The commander or his staff can analyze capabilities from different levels. The analyst views capabilities in priority from the perspective of those required to save, sustain, or enhance life. Capabilities can refer to the ability of local authorities—be they host nation, aggressor nation, or some other body—to provide key functions or services to a populace, such as public administration, public safety, emergency services, food and agriculture. Capabilities include those areas with which the populace needs assistance in revitalizing after combat operations, such as public works and utilities, public health, economics and commerce. Capabilities also refer to resources and services that can be contracted to support the military mission, such as interpreters, laundry services, construction materials and equipment. Host nation or other nations might provide these resources and services.

B-40. **Organizations.** Organizations are nonmilitary groups or institutions that influence and interact within the AO. They generally have a hierarchical structure, defined goals, established operations, fixed facilities or meeting places, and a means of financial or logistic support. Some organizations may be indigenous to the area, such as church groups, fraternal organizations, patriotic or service organizations, labor unions, criminal organizations, and community watch groups. Other organizations may be introduced to the area from external sources, such as multinational corporations, UN agencies, US government agencies, and nongovernmental organizations (NGOs), such as the International Red Cross.

B-41. Operations also often require Army forces to coordinate with international organizations (IOs) and NGOs. The commander must be familiar with organizations operating in his area. He must know of their activities, capabilities, and limitations. He must understand how the operations of different organizations impact on his mission, how military operations impact on organizational activities, and how organizations and military forces can work together toward common goals when necessary.

B-42. Corps and divisions routinely interact with other US agencies, host nation government agencies, and NGOs. In some circumstances, brigades and battalions also have to interact with these organizations. These groups do not necessarily have similar objectives or situational understanding as the US force. In almost every case, they will not have the same degree of resources that the commander has available to him although they may provide specialized capabilities, such as human intelligence (HUMINT). The commander has a responsibility to influence this larger community to action by persuasion in circumstances in which he lacks the authority to command. In dealing with other governmental agencies and international organizations, the commander must produce constructive results by the force of his argument and the example his actions establish.

B-43. **People.** People is a general term used to describe the nonmilitary personnel encountered by military forces in every military operation. The term includes all civilians within an AO as well as those outside the AO whose actions, opinions, or political influence can affect the military mission. Individually or collectively, people impact a military operation positively, negatively, or neutrally. In stability operations and support operations, US forces must work closely with civilians of all types.

B-44. There can be many different kinds of people living and operating in and around a given AO. As with the organizations above, people may be indigenous to the area or introduced from external sources. An analysis of people should identify them by their various capabilities, needs, and intentions. It is useful to separate people into distinct categories. When analyzing people, the commander must consider historical, cultural, ethnic, political, economic, and humanitarian factors. He must know who are the key communicators as well as what are the formal and informal processes used to influence people to respond to authority.

B-45. **Events.** Events are those routine, cyclical, planned, or spontaneous activities that significantly impact civilian lives or military operations. Some civil events that affect organizations, people, and military operations are national and religious holidays, agricultural crop/livestock and market cycles, elections, civil disturbances, and celebrations. Other events are disasters from natural, man-made, or technological sources that create civil hardship and require emergency response. Examples of events precipitated by military forces include combat operations, deployments, redeployments, and payday. Once the analyst determines what events are occurring, it is important to template the events and to analyze them for their political, economic, psychological, environmental, and legal implications.

B-46. Technological innovation, external social influences, and natural and man-made disasters, such as hurricanes, environmental damage, and war, impact the attitudes and activities of governments and their civilian populations. These changes cause stress in the civilian population and its leaders. The civilian population may or may not successfully incorporate these changes within its existing cultural value system. Addressing the problems posed by change requires considerable time and resources. The impatience of key leaders and groups, legal restrictions, and limits on resources can make it difficult for a commander to respond to these problems when their resolution is necessary to accomplishing the mission.

B-47. The existence of an independent press guarantees that US military activities that do not meet America's military standards for dealing with noncombatants will be reported in US, host nation, and international public forums. Commanders must consider the effects of their decisions and their forces' actions on public opinion. The activities of a force—or individual members of a force—can have far-reaching effects on the legitimacy of the types of military operations—offense, defense, stability, or support. The commander must ensure that his soldiers understand that a tactically successful operation can also be operationally or strategically counterproductive because of the way in which they execute it, and how the people perceive its execution.

B-48. The commander also has legal and moral responsibilities to refugees and noncombatants in the AO that may include an obligation to provide humanitarian assistance. Dislocated civilians resulting from military operations and the commander's legal obligation to respect and protect them influence his choice of a COA and execution of operations. His moral responsibility to protect noncombatants influences planning and preparing for operations.

RELEVANT INFORMATION

B-49. Relevant information is all information of importance to the commander and staffs in the exercise of command and control (FM 3-0). RI consists of information from METT-TC that applies to accomplishing the mission. RI is the foundation for the COP. In C2, intelligence is an element of RI. Intelligence does not come as raw data; to be RI in C2, it must come through the intelligence cycle. The cycle of planning and directing, collecting, processing, analyzing and producing, and disseminating intelligence requires a substantial effort to overcome some unique and complex challenges. RI answers questions the commander and staff deem necessary to exercising C2. These questions or requirements are in two categories: commander's critical information requirements (CCIR) and information requirements (IR). Although essential elements of friendly information (EEFI) are not part of the CCIR *per se*, they become commander's priorities when he states them.

B-50. Large amounts of RI are collected as a routine part of operations and are provided by standard reports and ISR activities. This information is essential for ongoing tasks the staff must perform regardless of the type of mission, such as maintenance of vehicles, personnel actions, and staff estimates. Other RI is mission-specific, and assets must be specifically tasked to collect it. Because collection assets are limited, a method of prioritizing collection is required. CCIR and IR are the techniques used to prioritize collection asset allocation.

COMMANDER'S CRITICAL INFORMATION REQUIREMENTS

B-51. CCIR are elements of information required by commanders that directly affect decision making and dictate the successful execution of military operations (FM 3-0). CCIR result from the analysis of information requirements against a mission and commander's intent and are limited to a useable number of items for comprehension. The commander designates CCIR to let the staff and his subordinates know what information he deems necessary for decision making. CCIR are not arbitrarily tied to specific decision points; however, some CCIR may be designated to support specific decision points. In

all cases, the fewer the CCIR, the better the staff can focus its efforts and allocate scarce resources.

B-52. CCIR belong to the commander only. He decides what information is critical based on his cognitive ability and visualization. The staff may assist the commander by recommending CCIR, based on its analysis of operations, but it should limit the number it recommends. CCIR are not static; the commander adjusts and updates them throughout an operation to reflect his information needs for decision making as the operation progresses. CCIR are—

- Specified by the commander for each operation.
- Applicable only to the commander who specifies them.
- Situation-dependent—directly linked to current and future missions.
- Events or activities that are predictable.
- Time-sensitive. Answers to CCIR must be immediately reported to the commander by any communications system available.
- Always included in an OPORD or OPLAN initially.

CCIR focus the information reported to the commander that is critical to his decision making. The answers to CCIR should determine or validate a COA or initiate critical events during operations.

B-53. CCIR consist of priority intelligence requirements (PIR) and friendly forces' information requirements (FFIR). CCIR may also include latest time information of value (LTIOV) to guide time sensitivity.

- *PIR* are those intelligence requirements for which a commander has an anticipated and stated priority in his task of planning and decision making (JP 1-02). PIR consist of the most important information the commander needs to know about the enemy, to include the time available to the enemy, and the environment (terrain, weather, and selected aspects of civil considerations) (*how I see the enemy*) to support making decisions.
- *FFIR* **are information that the commander and staff need about the forces available for the operation.** FFIR consist of information on the mission, troops available, and time available for friendly forces *(how I see myself).* When the commander designates FFIR, a key consideration is how that information highlights critical friendly capabilities with respect to the enemy.

B-54. **Exceptional Information**. Because no one can foresee all possible information requirements, there is one other category of information—exceptional information. Exceptional information results from an unexpected extraordinary event, such as an unforeseen opportunity for success or an early warning of a pending threat. Exceptional information is information that would have been a CCIR if it had been foreseen; it is therefore treated as CCIR and reported to the commander immediately by any method available. By its very nature, identifying exceptional information relies on the initiative of subordinate commanders and the staff.

ESSENTIAL ELEMENTS OF FRIENDLY INFORMATION

B-55. Essential elements of friendly information are the critical aspects of a friendly operation that, if known by the enemy, would subsequently compro

mise, lead to failure, or limit success of the operation and therefore must be protected from enemy detection (FM 3-13)(*how can I prevent the enemy force from seeing me*). Although EEFI are not part of the CCIR *per se*, they become commander's priorities when he states them. Like CCIR, the commander designates EEFI and transmits them to the staff and subordinates. They tell the command what not to compromise to the enemy, and friendly forces must take all necessary measures to ensure that this information does not fall into enemy hands. For example, a commander may determine that if the enemy discovers movement of the reserve, the operation is at risk. In this case, location and movement of the friendly reserve become EEFI. Identification of EEFI is the first action in the OPSEC process, which produces measures to protect EEFI. EEFI are often key factors in designing military deception operations (see FM 3-13). In some cases, the requirement to know if EEFI have been compromised will result in an IR, which may in turn become a PIR.

INFORMATION REQUIREMENTS

B-56. **Information requirements contain information from the factors of METT-TC that must be collected to meet the requirements of the commander and his staff to execute operations successfully.** The joint definition of IR focuses only on IR associated with intelligence, whereas C2 has IR that extend beyond the joint definition. A headquarters must focus IR on RI. The commander does this through designating CCIR. The staff must ensure that collecting the vast amount of other information required by operations is truly relevant and not just nice to have. Each BOS and staff develops their own IR to drive functional information management and to answer CCIR. IR must be related to the unit mission; unfocused requests may provide plenty of data, but not much RI.

B-57. Figure B-2 shows the flow of information and IR. The process begins with questions by either the commander or the staff that they need to exercise C2. These questions become IR. From the IR, the staff recommends designating some as PIR or FFIR. From the staff recommendations, or from his own priorities, the commander designates his CCIR. This provides a clear set of priorities for allocating resources to answer IR. The staff allocates resources first to answer CCIR, then to PIR, FFIR, and EEFI, and only then to the remaining IR. During the operations process, answers to IR, especially CCIR and EEFI, will result in decisions and assessments of the status of the operation. These decisions and assessments will modify the IR (to include CCIR and EEFI), resulting in changes to collection taskings. This dynamic process generates new requirements continually. The staff must review IR frequently to ensure that they are still relevant and to identify new requirements to support the commander's decision making.

B-58. Figure B-3 illustrates the relationships among the cognitive hierarchy, IR, and CCIR. The hierarchy shows where meaning is added to data when it is collected in response to IR. The staff collects RI using various sources. It adds meaning to the data to process it into knowledge, creating the COP. The commander applies his judgment to the COP to achieve situational understanding. When the commander adds CCIR to situational understanding, he can make critical decisions.
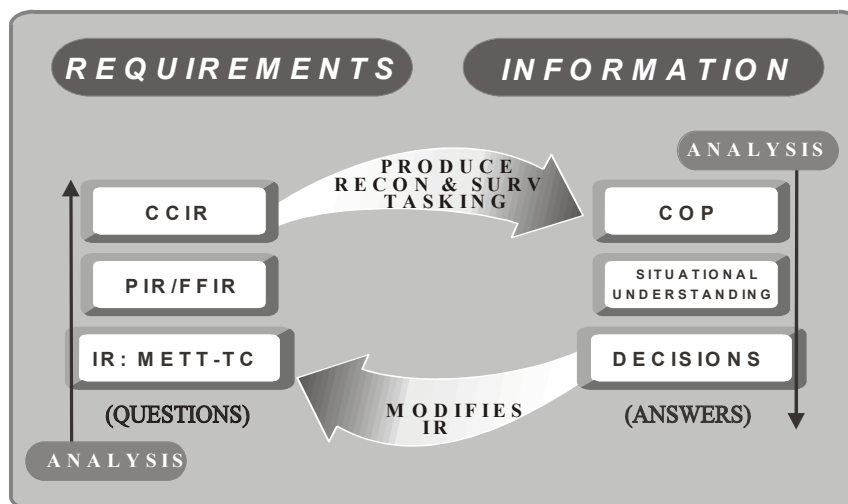
Figure B-2. Relevant Information

RELEVANT INFORMATION QUALITY CRITERIA

B-59. Because sources of information are imperfect and susceptible to distortion and deception, IM includes assessing the quality of information carefully. The following criteria, listed in relative order of importance, help to evaluate information for quality:

- *Accuracy*. The information conveys the true situation; the degree to which it is fact.
- *Timeliness*. The information still reflects reality; it is not overtaken by events.
- *Usability*. The information is easily understood or displayed in a format that immediately conveys the meaning.
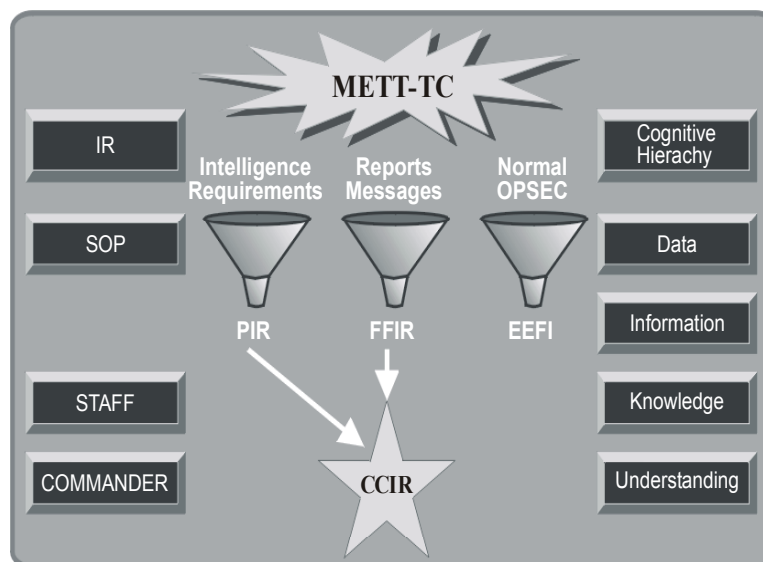
Figure B-3. Information Requirements

- *Completeness*. The information contains all necessary components.
- *Precision*. The information contained has the required level of detail, no more and no less.
- *Reliability*. The information is trustworthy, uncorrupted, and undistorted.

The following priorities apply:

- Incomplete or imprecise information is *better than* no information at all.
- Untimely or unusable information is *the same as* no information at all.
- Irrelevant or inaccurate information is *worse than* no information at all.

B-60. In general, a commander does not require information beyond a moderate level to accomplish his mission, so long as it is accurate, timely, and usable. Beyond that, he can achieve mission success at reduced cost when he has more information; however, collecting more information may carry an unacceptable cost in timeliness. IM should focus on CCIR first, which demands vision on the part of the commander, and understanding of the commander's intent and CCIR by subordinates to identify and recognize the critical needs.

USES OF RELEVANT INFORMATION

B-61. The uses of RI also have categories: the COP and execution information. The C2 system collects RI and uses it to create the COP and support situational understanding as a basis for making a decision. Execution information provides a means for communicating a clearly understood vision of the operation and its desired outcome, which guides subordinates as they carry out a decision.

COMMON OPERATIONAL PICTURE

B-62. INFOSYS now available provide commanders at all levels with near real-time RI on the current situation in the form of the COP. The COP contains RI about the factors of METT-TC that the commander uses to derive situational understanding. The COP is derived from data, information, and knowledge common to all echelons. The commander and staff tailor their display for resolution and content appropriate to their echelon of command and the mission.

B-63. Reports normally convey COP information. Usually reports have a prescribed purpose and format, and they may transmit critical, exceptional, or routine information (see FM 6-99.2).

EXECUTION INFORMATION

B-64. **Execution information is information that directs, initiates, or regulates action, conduct, or procedure.** The source for execution information is the commander's decisions and the product of planning. Execution information takes many forms, including orders, plans, directives, memorandums, and regulations. Orders, including FRAGOs and WARNOs, and plans constitute the primary means of transmitting execution information.

Appendix C

Staff Organization and Staff Officers

This appendix provides the foundation of staff organizations from battalion through corps. The Army uses standardized staff organizations to benefit from consistency in performance, responsibilities (regardless of unit type or echelon), training, and resources. It further discusses characteristics of staff officers.

BASIS FOR STAFF ORGANIZATIONS

C-1. Military staffs are organized based on three considerations:

- Mission.
- Broad fields of interest.
- Regulations and laws.

C-2. The *mission* determines which activities to accomplish. These activities determine how the commander organizes, tailors, or adapts the staff to accomplish the mission. The mission of the headquarters also determines size and composition of the staff.

C-3. Regardless of the command mission, every Army staff has common *broad fields of interest* that determine how the commander divides duties and responsibilities. Grouping related activities allows an effective span of control and unified effort. The broad fields of interest may vary, depending on the echelon of command, the mission, and the environment. For example, at the battalion level there is no resource manager, while certain logistics units

combine the intelligence and operations functions. Broad fields of interest include—

- Personnel (G1/AG) (S1).
- Intelligence (G2) (S2).
- Operations and training (G3) (S3).
- Logistics (G4) (S4).
- Civil-military operations (G5) (S5).
- Command, control, communications, and computer operations (C4Ops) (G6) (S6).
- Resource management (RM).

C-4. Army ***regulations and laws*** establish special relationships between certain staff officers and the commander. For example, AR 20-1, AR 27-1, and AR 165-1 require the inspector general (IG), the staff judge advocate (SJA), and the chaplain as members of the commander's personal staff.

FACTORS AFFECTING STAFF ORGANIZATIONS

C-5. Each commander uses his professional knowledge, experience, and leadership style to organize his staff. Several factors influence this organization—

- Size and diversity of responsibilities.
- Local (unique) requirements.
- Amount of relevant information (RI) the section must promptly disseminate.
- Availability, qualifications, and performance of personnel.
- Organization and locations of CPs and headquarters.
- Section's mobility requirements.
- Requirements for 24-hour operations and security.
- Ability to group related activities.
- Desired span of control.
- Commander's and chief of staff's preferences.

AUTHORIZATION FOR STAFF ORGANIZATIONS

C-6. Every organization and activity must have an authorization document that states a unit's approved structure and resources; it is the basis and authority for requisitioning. This document is either a modification table of organization and equipment (MTOE) or a table of distribution and allowances (TDA), or a combination of both.

C-7. A table of organization and equipment (TOE) is a standard authorization document that prescribes organizational structure, personnel, and equipment requirements of a military unit. The commander develops an MTOE from the TOE to establish his unit's wartime authorizations. Commanders prescribe in more detail organization, personnel, and equipment to be authorized to accomplish doctrinal missions in specific geographical or operational environments, or at specific points on a modernization path. The commander can change the MTOE with Department of the Army approval.

C-8. The TDA prescribes the organizational structure for a unit having a support mission or function where there is no TOE, and may include civilian positions. TDAs are unique authorization documents. They help the staff attain the most efficient operational capability possible—using command force structure manpower spaces—to accomplish specific missions and functions. Types of TDA documents include mobilization, augmentation, and full-time support TDAs. See FM 3-100.11 for a discussion of authorization documents.

BASIC STAFF STRUCTURE MODEL

C-9. Staffs at every echelon of command are structured differently, but all staffs have some similarities. The basic staff structure includes a chief of staff (CofS) or executive officer (XO) and three staff groups: coordinating, special, and personal. The number of coordinating, special, and personal staff officers within each staff group varies at different levels of command. The commander may integrate TDA staffs with MTOE staffs to promote unity of effort and to save resources. Figure C-1 depicts the basic staff model.
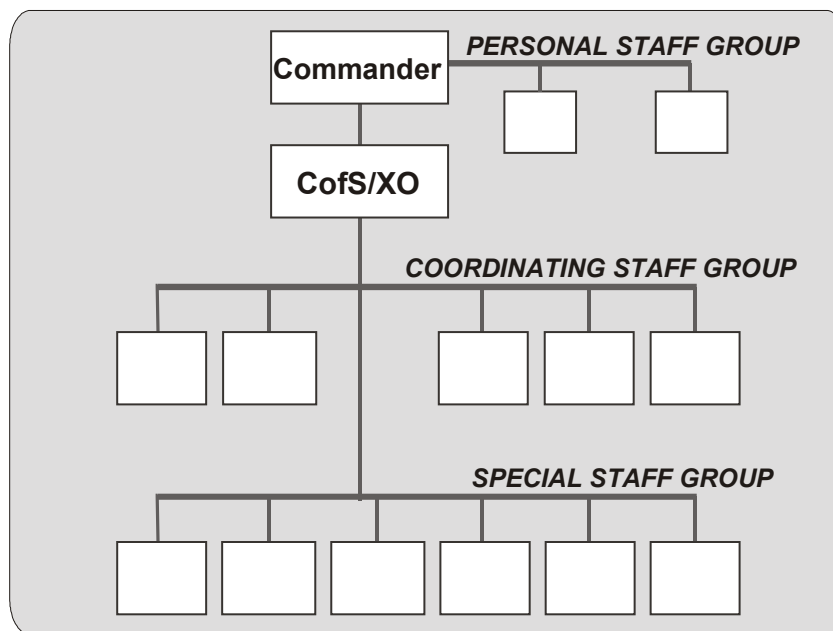
Figure C-1. Staff Structure Model

C-10. CofS (XO). The CofS (XO) is the commander's principal staff officer. He directs staff tasks, conducts staff coordination, and ensures efficient and prompt staff response. The CofS oversees coordinating and special staff officers. He does not necessarily oversee the personal staff officers, although he normally interacts with them daily. The commander normally delegates authority to the CofS for the executive management coordinating and special staff officers.

COORDINATING STAFF GROUP

C-11. Coordinating staff officers are the commander's principal staff assistants and are directly accountable to the CofS. They are responsible for one or a combination of broad fields of interest. (See Appendix D for specific responsibilities and duties.) They help the commander plan, prepare for, execute and assess operations and activities. Collectively, through the CofS, they are accountable for all of the commander's responsibilities. The staff is *not* accountable for functional areas the commander decides to control personally.

C-12. Commanders may designate coordinating staff officers as assistant chiefs of staff (ACofSs), deputy chiefs of staff (DCofSs), directors, or regular staff officers. These positions generally reflect the degree of authority the commander delegates to coordinating staff officers and the scope and complexity of operations within a command. However, the commander establishes a staff officer's actual authority if it is not inherent in his title.

C-13. A coordinating staff officer's authority is limited to advising, planning, and coordinating actions within his field of interest. He also coordinates and integrates appropriate special staff officer activities into operations. The commander might also add authority to a coordinating staff officer to act on specific matters within his field of interest.

C-14. Directors have staff and line authority. For example, the director of logistic operations might be responsible for operating support activities in addition to his normal responsibilities. Typically, a commander might delegate significant responsibility and authority to a director, allowing him to accomplish specific functions.

C-15. Normally, coordinating staff officers have a direct interest in other staff officers' fields of interest. Therefore, a clear definition of staff responsibilities is necessary to coordinate and eliminate conflict. Unit SOP or organization and functions manuals provide procedures to specify primary responsibilities and requirements for coordination.

C-16. Coordinating staff officers are responsible for collecting information and analyzing its implications and impact on the command. More important, coordinating staff officers must provide timely and accurate recommendations to the commander to help him make the best possible decisions. While doing so, they must often request and receive information and recommendations from special staff officers. They must also inform all other coordinating staff officers, as required.

SPECIAL STAFF GROUP

C-17. Special staff officers help the commander and other staff members in their professional or technical functional area. The specific number of special staff officers and their duties vary at each level of command. Special staff sections are organized according to functional areas. For example, the fire support coordinator (FSCOORD) is the staff officer whose functional area is fire support. In some cases, a special staff officer is a unit commander. An example is a division artillery commander or an engineer brigade commander at division or corps.

C-18. The commander assigns responsibilities to specific coordinating staff officers for each of the special staff functions. Although special staff sections may not be integral to a coordinating staff section, there are usually areas of common interest and habitual association. Therefore, a coordinating staff officer might be responsible for coordinating a special staff's actions. For example, at division level, the G3 coordinates all matters relating to fires with the FSCOORD, the ENCOORD, the Marine liaison team (MLT) commander, the aviation coordinator, and the air liaison officer.

C-19. Special staff officers may deal routinely with more than one coordinating staff officer. The provost marshal (PM) usually functions under the G3, but coordinates with the G1, G2, G4, and G5.

PERSONAL STAFF GROUP

C-20. Personal staff members work under the commander's immediate control. They also may serve as special staff officers as they coordinate actions and issues with other staff members. When performing their duties as special staff officers, personal staff officers may work through the CofS and under a coordinating staff officer for coordination and control purposes. Members of the personal staff include--

- Personal assistants, such as aides-de-camp.
- Personnel the commander desires to supervise directly.
- Personnel who, by law or regulation, have a special relationship to the commander.

C-21. Typical personal staff members include the command sergeant major, chaplain, IG, public affairs officer, surgeon, dentist, and SJA.

STAFF MODELS

C-22. All Army staff organizations at corps through battalion levels use a basic model to begin organizing their staffs (see Figure C-1). Each commander then tailors his staff according to his specific needs. Whether the staff is called a G staff or an S staff depends on the officer in command. When a general commands a unit, he has a G staff. When a colonel (or below) commands a unit, he has an S staff.

MAJOR COMMANDS (G STAFFS) (CORPS AND DIVISION)

C-23. Figure C-2 shows the typical staff organization for a corps or division. The staff of a major command has each of the major staff groups: coordinating, special, and personal staff officers. (See Appendix D for the duties and responsibilities of these officers.) In a corps or division, the deputy or assistant commander extends the commander's span of control in areas and functions as the commander designates.
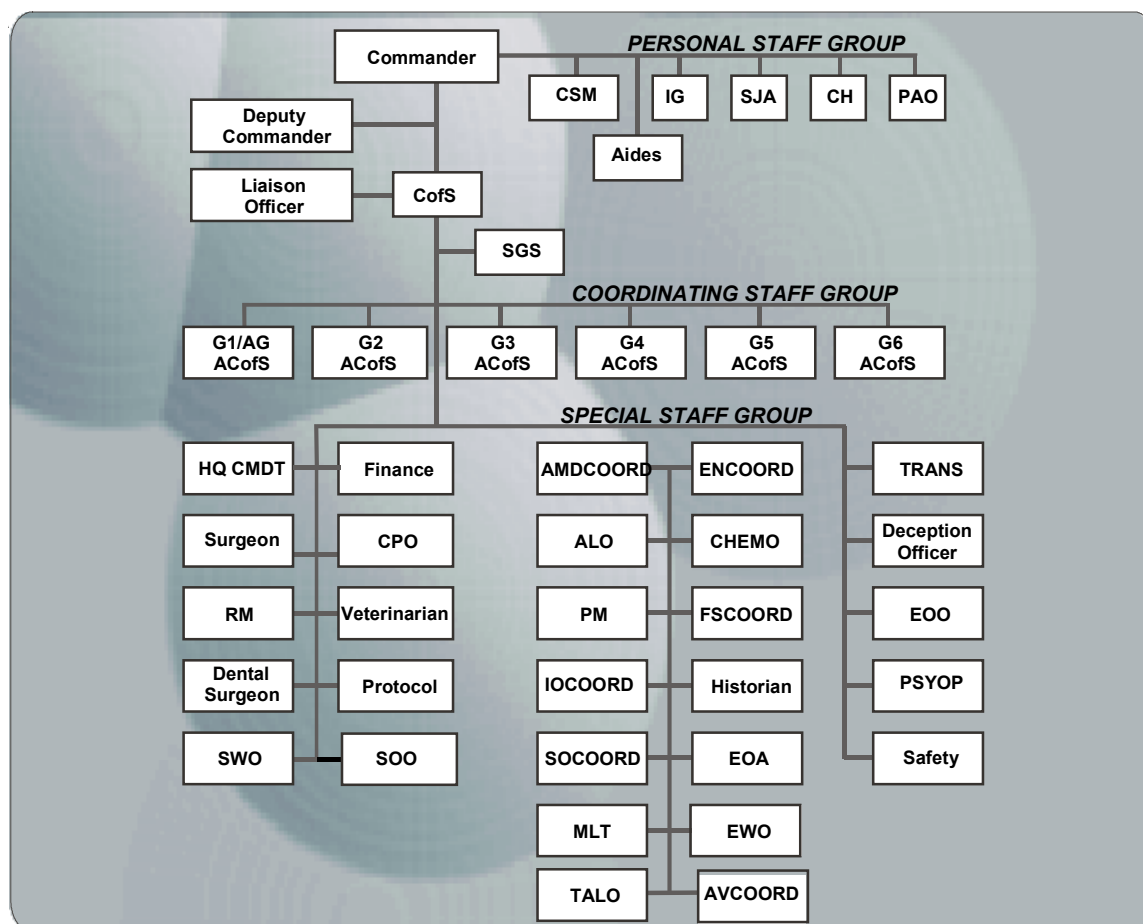
Figure C-2. Typical Corps or Division Staff Structure

SMALLER UNITS (S STAFFS) (REGIMENTS, BRIGADES, AND BATTALIONS)

C-24. The staffs of smaller units are organized according to the basic staff model. Figure C-3 depicts a typical smaller-unit staff structure. (See Appendix D for the duties and responsibilities of each staff officer.) Smaller-unit staff functions are generally the same as those for larger staffs. However, the operational nature of smaller units might require some modification. For example, staff activities, such as advising, planning, coordinating, and supervising, are more informal than at higher levels. The functional area of interest should remain even when the function is absent. Often supporting unit commanders—for example, engineer battalion and company at maneuver brigade and battalion respectively—also serve as a special staff officer in their area.

C-25. In CSS units, the commander usually consolidates the S2 and S3 and adds a support operations section. Like a personal or special staff officer, the support operations officer works directly for the commander and is responsible for external support of the unit's mission. There may also be other coordinating staff officers, depending on the command's mission. The command may form other staff groups when DA or the theater commander authorizes. In units where the TOE or TDA does not authorize an S5, the commander gives an officer (usually the S3) the responsibility for civil-military operations functions. For brigades and battalions not authorized a specific special staff officer, the commander appoints an officer to perform the function as an additional duty, if required.
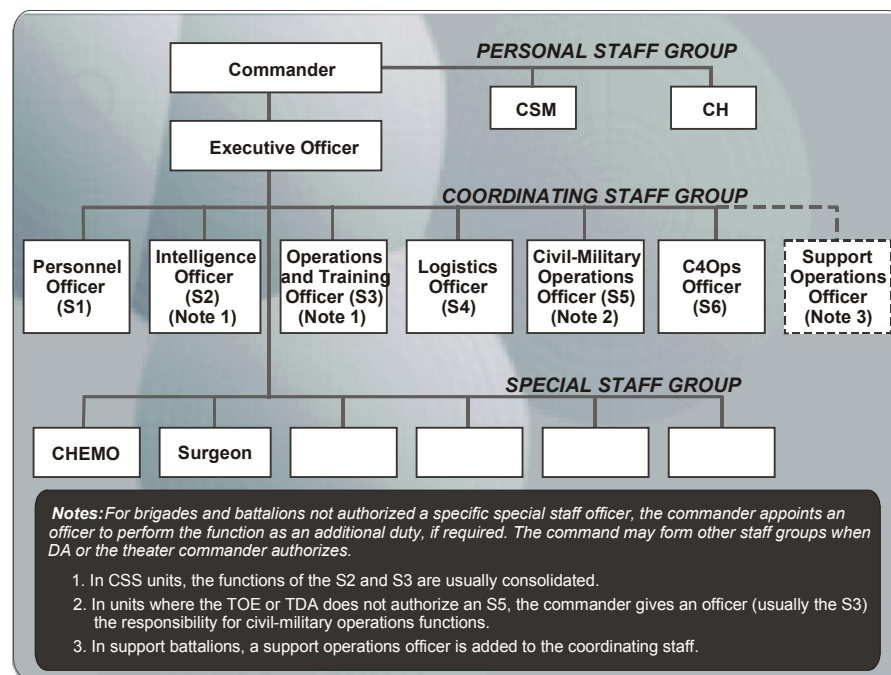
Figure C-3. Typical Smaller-unit Staff Structure (brigade and battalion)

CHARACTERISTICS OF A STAFF OFFICER

C-26. This section addresses staff officers at every echelon of command, from battalion through corps. Most officers are assigned to staff duty several times throughout their careers, serving under many different commanders in a variety of staff positions. Although much of what the staff officer does is not noticed, his competence is crucial in all that the command accomplishes.

C-27. A commander always retains the ultimate responsibility to make the final decision. The staff officer's job is to accomplish the commander's intent by operating within his assigned authority to perform the duties in his area of expertise. He must provide the commander with correct and timely information to make the right decisions.

C-28. FM 6-22 discusses those values, attributes, skills, and actions expected of all leaders. Staff officers are expected to follow those guidelines; however, staff work requires additional characteristics—or requires a different application of the common characteristics. The list below addresses some of the more important characteristics of successful staff officers. These provide the commander and staff officers the basis for counseling or professional development sessions on what the commander expects of his staff officers. A good staff officer has the following characteristics:

- Competence.
- Initiative.
- Creativity.
- Flexibility.
- Confidence.
- Loyalty.
- Team player.
- Effective manager.
- Effective communicator.

COMPETENCE

C-29. A staff officer has to be competent in all aspects of his position and know his duties and responsibilities. He must be familiar with the duties of other staff members to accomplish vertical and lateral coordination to make recommendations for the commander. The commander expects the staff officer to analyze each problem and know, not guess at, the correct answer before making his recommendation. The staff officer must have the moral courage to admit when he does not know the correct answer to a question.

INITIATIVE

C-30. A staff officer must have the initiative to anticipate requirements. He cannot wait for the commander's guidance on when and where to act. He must anticipate what the commander needs to accomplish the mission and provide answers to his questions. He must know the commanders' intent two levels up and always operate within the commanders' intent. He should not hesitate to take advantage of opportunity to accomplish the mission in the commander's absence, but he must always ask himself if he is doing what the commander would want him to do. When exercising disciplined initiative, he must report his actions to his commander at the earliest opportunity.

CREATIVITY

C-31. A commander is always looking for new and innovative solutions to problems. The staff officer must be creative in researching solutions to difficult and unique situations. If he cannot recommend a course of action in one direction or area, he must find an alternative. As a team player, he uses the creativity of all staff and command members. A staff officer must always give the commander a recommended COA.

FLEXIBILITY

C-32. A staff officer must have maturity and presence of mind to keep from becoming overwhelmed or frustrated by changing requirements and priorities. A commander frequently changes his mind or direction after receiving additional information or a new mission. The commander may not share with the staff the reason for such a change. The staff officer must remain flexible and adjust to the commander's needs. He must be a master at prioritizing when there are more tasks to accomplish than time allows, learning to juggle multiple commitments simultaneously. It is essential that the staff officer meet suspenses because the commander and other staff members depend on his input to the problem-solving process. He must meet suspenses or inform the commander in advance to ask for a time or priority adjustment.

CONFIDENCE

C-33. A staff officer must have the mental discipline and confidence to understand that all staff work serves the commander, even if the commander rejects the resulting recommendation. The staff officer must not give a "half effort" because he thinks the commander will disagree with his recommendation. The work of the staff officer assists the commander in making the best possible decision.

C-34. The staff officer must develop multiple sides of an issue. Developing COAs must not bias the evaluation criteria to distinguish among the COAs. The staff officer must give the commander an unbiased look at a problem and the best possible solution for its remedy.

C-35. A staff officer must understand that often a 5-minute answer for the commander may require 10 hours of staff work. Some staff officers may conclude that spending that much time is not worth the return. On the contrary, the staff officer needs to do what is required and expected of him to relieve the commander of tedious, detailed research. Further, the data he collects for the commander is a form of professional development, giving him confidence and experience to make future decisions as a staff officer, or as a future commander. During a crisis, this helps him rely on his knowledge of what works.

LOYALTY

C-36. The staff officer must be loyal to the commander and the soldiers of the command. This does not mean the staff officer tells the commander what he thinks the commander wants to hear. The staff officer must have the moral courage to tell the commander both good and bad news. Any staff work eventually affects the soldier, who has to execute the staff officer's recommendations if the commander approves them. The staff officer must never forget how his recommendations affect the soldier.

TEAM PLAYER

C-37. The staff officer must be a team player. He cannot complete staff actions and staff work in a vacuum; he must advise, consult, and cooperate with others. He must prepare to represent another's decisions and to sacrifice self or vested interests. A staff officer should maintain a pleasant disposition to help achieve results.

EFFECTIVE MANAGER

C-38. The staff officer must have the ability to manage time and resources effectively. Time will always be critical. He must think about not only his time, but also the time of other staff members and subordinate units. The staff officer must recognize that not all projects can be an A or B priority. He should be capable of setting reasonable suspenses that allow completing a C product.

C-39. The staff officer must be a good steward of resources (people, environment, and money) the country entrusts to his care. He must be diligent in his efforts to efficiently manage these resources and preserve the environment, avoiding waste, destruction, and duplication of effort.

EFFECTIVE COMMUNICATOR

C-40. Effective communication is crucial for the staff officer. He must clearly articulate and effectively present orally, in writing, and visually (with charts and graphs) the commander's intent, guidance, and decisions. The staff officer must brief individuals and groups. He should know and understand briefing techniques to convey complex information in an easily understood method. He must be able to write clear, concise operation orders (OPORDS), OPLANS, staff studies, staff summaries, and reports.

C-41. The staff officer must use current computer technology. This includes producing visual briefing products such as charts, graphs, slides, or other multimedia briefing products to assist in communicating the commander's intent. He should also be proficient in using computer technology such as word processing, electronic mail, and other available resources to manage his time and to solve problems.

C-42. The staff officer frequently prepares briefings or written documents for the commander or another superior staff officer. The staff officer must prepare the document as if he were going to sign it or brief it himself.

Appendix D

Staff Responsibilities and Duties

The commander's staff must function as a single, cohesive unit—a professional team. Each staff member must know his duties and responsibilities and be familiar with the duties and responsibilities of other staff

members. This appendix describes the responsibilities and duties commonly performed by staff officers assigned to the headquarters of Army units in the field from battalion through corps. AR 10-5 describes the responsibilities and duties of the DA staff. AR 5-3 contains information about the responsibilities of installation staffs. This appendix first discusses the role and duties of the chief of staff/executive officer. It then discusses common duties and responsibilities of all staff officers. Finally, it discusses specific responsibilities and duties of staff officers.

CHIEF OF STAFF (CofS)/EXECUTIVE OFFICER (XO)

D-1. The CofS (XO) is the commander's principal assistant for directing, coordinating, supervising, and training the staff, except in areas the commander reserves. The commander normally delegates executive management authority (equivalent to command of the staff) to the CofS. The CofS frees the commander from routine details and passes pertinent data, information, and insight from the staff to the commander and from the commander to the staff. The value of a close relationship between the commander and the CofS cannot be overstated. During operations the CofS must anticipate events and share a near-identical visualization of operations, events, and requirements. He must understand his commander's intent better than, or at least as well as, subordinate commanders. The CofS must understand the commander's personality, style, and instincts as they affect the commander's intentions. Staff members must inform the CofS of any recommendations or information they pass directly to the commander, or of instructions they receive directly from the commander.

D-2. The CofS helps the commander control subordinate units to prepare for future employment. He monitors their combat readiness status and directs actions to posture subordinate units. Under special conditions or missions, the commander may give the CofS temporary command of a portion of the

force (such as in deployments, retrograde operations, obstacle crossings, or when the commander and deputy or assistant commanders are unable to command).

D-3. The CofS ensures information—as an element of combat power—is integrated into the execution of operations of the unit. At corps and division, the G3, with the information operations coordinator (IOCOORD), and other coordinating staff officers assist him in his information operations (IO) responsibilities. The CofS may designate one of the coordinating staff officers as his principal information executive agent to synchronize IO, information management (IM), and intelligence, surveillance, and reconnaissance (ISR) to achieve information superiority.

D-4. The CofS is located at corps, division, major support command echelons, and other units commanded by a general officer. The XO, performing the duties of the CofS, is located in units not commanded by a general officer (regiment, brigade, and battalion). As supervisor of the staff, the CofS (XO) is responsible for—

- Supervising all tasks assigned to the staff.
- Directing the efforts of coordinating and special staff members.
- Integrating and synchronizing operations plans (OPLANs) and operations orders (OPORDs).
- Supervising management of the commander's critical information requirements (CCIR).
- Establishing, managing, and enforcing the staff planning time line in accordance with the commander's guidance.
- Supervising the targeting and other cross-FLOT (forward line of own troops) planning cells.
- Integrating fratricide countermeasures into the plan.
- Determining liaison requirements, establishing liaison information exchange requirements, and receiving liaison teams.
- Directly supervising the main command post (CP) and headquarters cell, including displacement, protection, security, and communications.
- Monitoring staff's discipline, morale, and operational readiness.
- Organizing, planning, and conducting staff training.
- Ensuring staff work conforms to the mission, commander's guidance, and time available.
- Ensuring the staff integrates and coordinates its activities internally and with higher, subordinate, supporting, supported, and adjacent units.
- Informing the commander, deputy or assistant commanders, other primary staff members, and the CofSs of subordinate units about new missions, instructions, and developments.
- Directing and supervising the staff's planning process.
- Ensuring all staff members participate in and provide their functional expertise to the intelligence preparation of the battlefield (IPB) process as managed by the G2/S2 ICW G3/S3.
- Supervising integration of ISR.

- Maintaining knowledge of all directives, orders, and instructions the commander issues to the staff, subordinate commanders, and subordinate units, and verifying their execution.
- Ensuring the staff renders assistance to subordinate commanders and staffs.
- Integrating risk management across the staff for planning and executing operations.
- Coordinating staff responsibility for the following special staff officers—
    - Headquarters commandant.
    - Secretary of the general staff (SGS).
    - Liaison officers (LNOs).

STAFF ACTIVITIES

D-5. Staff activities focus on assisting the commander in mission accomplishment. The staff contributes to making and executing timely decisions. The commander and staff should be continually alert to opportunities to streamline cumbersome or time-consuming procedures.

COMMON RESPONSIBILITIES AND DUTIES

D-6. The following paragraphs discuss common responsibilities and duties among all staff members.
- Advising and informing the commander.
- Preparing, updating, and maintaining staff estimates.
- Making recommendations.
- Preparing plans and orders.
- Assessing the execution of operations.
- Managing information within areas of expertise.
- Identifying and analyzing problems.
- Conducting staff coordination.
- Conducting training.
- Performing staff assistance visits.
- Performing risk management.
- Conducting staff inspections.
- Conducting staff writing.
- Conducting staff research.
- Performing staff administrative functions.
- Supervising staff section and staff personnel.

Advising and Informing the Commander

D-7. The staff continuously provides relevant information (RI) to the commander on the progress of operations. This information helps the commander obtain situational understanding. One piece of information may not be significant, but when added to others, may be the information that allows the commander to formulate his visualization to make a decision. The staff—

- Advises the commander and other staff members on capabilities, limitations, requirements, resource availability and employment, and all matters pertaining to their areas of interest.
- Advises the commander and staff officers on the capabilities, limitations, and employment of supporting forces.
- Informs and advises the commander of directives and policy guidance from higher headquarters.

Preparing, Updating, and Maintaining Staff Estimates

D-8. The staff prepares estimates to assist the commander in decision making. Adequate plans hinge on early and continuing estimates by staff officers. The commander uses recommendations to select feasible courses of action (COAs) for further analysis. Failure to make or update these estimates may lead to errors or omissions when developing COAs. See FM 5-0 for discussion of staff estimates.

Making Recommendations

D-9. Staff officers make recommendations to assist the commander in reaching decisions and establishing policies. Staff officers also offer recommendations to one another and subordinate commanders. These recommendations are for information and assistance only.

D-10. Staff officers may brief recommendations or provide written estimates or studies. Whether procedures are formal or informal, staff officers must carefully analyze and compare all feasible alternatives using the best information available. They must candidly and objectively present the alternatives to the commander by clearly showing advantages and disadvantages. They must be thoroughly prepared to recommend a best alternative to the commander. Preparations include coordinating with the staff officers whose areas of interest the recommendation might affect. Staff officers prepare recommendations in a form that requires only the commander's approval or disapproval. Within their areas of expertise, staff officers make the following kinds of recommendations:

- Command policy and guidance concerning capabilities, limitations, and employment.
- Policies and procedures to enhance capabilities.
- Priorities for employment, distribution, and support.
- Acceptable risk.
- Organization for combat, allocations to subordinate units, and command and support relationships between subordinate units and organic units.
- Resource allocation and employment synchronization of all organic and supporting assets (to include those of other services) to support the scheme of maneuver.
- General location and movements of units.

Preparing Plans and Orders

D-11. The staff prepares and issues plans and orders to execute the commander's decisions, coordinating all necessary details. The commander may

delegate authority to staff officers to issue plans and orders without his personal approval. The commander assigns a single staff officer responsibility for preparing and publishing a plan or order. Other staff officers prepare elements of the plan or order in their areas of interest. (FM 5-0 discusses plans and orders.) Examples include—

- Formulating the concept of operations and support in line with the commander's intent.
- Identifying specified and implied tasks to support the plan.
- Developing the scheme of maneuver to support the COA.
- Adjusting plans according to feedback.
- Identifying constraints.
- Preparing, authenticating, and distributing their portion of the command standing operating procedures (SOP), OPLANs, OPORDs, annexes, estimates, appendixes, support plans, command training plan, reports, studies, and summaries.

Assessing the Execution of Operations

D-12. The staff assists the commander by ensuring that subordinates execute his decisions. This relieves the commander of detail, keeps the staff informed of the situation, and provides the staff information to revise estimates and to produce progress reports to the commander during preparation and execution. Staff officers ensure that the intended recipients receive the decisions, and understand and execute them within the commander's intent. They also initiate recommendations for adjustments when circumstances demand. Supervision is accomplished through analyzing reports, messages, and staff visits. Actions by staff members include—

- Monitoring the execution of instructions, plans, and orders.
- Ensuring that subordinate and supporting units accomplish missions to support the commander's scheme of maneuver.

Managing Information within Areas of Expertise

D-13. Staff officers cannot be merely data collectors and transmitters. They must be able to analyze and clearly articulate information. The staff collects, processes, stores, displays, and disseminates information that flows continuously into the headquarters. The staff rapidly provides critical elements of information to the commander and other members of the staff, particularly CCIR.

D-14. Staff officers routinely analyze matters influencing operations to identify problems that may affect their area of interest or the entire command. Judgment and experience are major factors in the staff officer's ability to recognize problems. He should develop a systematic approach, weighing each new item of information in relation to other information at his disposal. The different areas of staff responsibility may well employ specific doctrinal IM processes based on the particular requirements of managing information within their staff responsibility, such as the intelligence cycle.

D-15. Staff officers disseminate information using, among others, briefings, electronic mail, staff papers, reports, and summaries. They use reports and

summaries extensively to provide information to higher, subordinate, supporting, supported and adjacent commands.

D-16. Subordinate and supporting commands should be required to provide the minimum number of reports consistent with the commander's need for information.

D-17. Within their areas of interest, staff officers conduct the following general IM activities:

- Submitting information and intelligence reports and intelligence requirements to the G2 (S2).
- Maintaining current common operational picture (COP) information and monitoring operations.
- Participating in the IPB process as managed by the G2/S2.
- Participating in ISR planning and execution as integrated by the G3(S3) and led by the operations and intelligence staffs using an integrated process and procedures.
- Providing risk assessment input to the G3 (S3).
- Reporting information of interest to the historian.
- Monitoring compliance with operations security (OPSEC) directives and procedures.
- Identifying host nation (HN) requirements and coordinating with the G5 (S5) on integrating HN assets.
- Assessing and reporting shortfalls of occupational specialties and personnel readiness issues to the G1/AG.
- Determining workload requirements and assessing status of their organizations.
- Evaluating the effectiveness of support provided.
- Identifying requirements for additional units, personnel, equipment, or support.
- Determining and planning training requirements for the entire force.
- Determining requirements for forces and equipment based on the commander's priorities in coordination with other staff elements and subordinate commands.
- Determining the adequacy of priorities for employing units.
- Performing review and analysis to determine and enhance their effectiveness to support operations and achieve objectives.
- Analyzing operational effects on the environment and assessing environmental status.

D-18. Within their areas of interest, battle staff officers fulfill the following specific IM tasks and activities:

- Develop and provide to the G6, their assigned annex of or input to the command information management plan (CIMP).
- Identify and update information requirements (IRs) and CCIRs about METT-TC.
- Collect, process, disseminate, display and store RI from their specific area of responsibility for others' use. The IM coordinator (IMCOORD),

assisted by the RI and INFOSYS officers, has overall responsibility for compiling RI developed by all staff elements. They manage the networked means available to collect, process, display, store, and disseminate RI needed by the G3 and the G6 to create and disseminate the COP.

* Assist the G3 and the G6 in building the COP.
* Assist the commander in developing knowledge and deriving situational understanding from the COP.

Identifying and Analyzing Problems

D-19. The staff must continually identify current and future problems or issues that affect mission accomplishment. Once he identifies a problem, the staff officer must analyze what actions or coordination to take to resolve the issue. Sometimes the staff officer has the capability and authority to correct the problem without direction from the commander. If not, once the staff officer thoroughly analyses the problem, he must inform the commander so he can make the appropriate decision to resolve the issue.

Conducting Staff Coordination

D-20. Staff coordination results in making certain that pieces fit together in an integrated whole. Good staff coordination requires personal initiative, a spirit of cooperation, and the genuine interest of each staff member to achieve a unified effort. Most staff actions require coordination that extends beyond the immediate command and includes higher, subordinate, supporting, supported, and adjacent commands. Coordination is essential for four reasons: to ensure a thorough understanding of the commander's intent, to ensure complete and coherent staff actions, to avoid conflict and duplication by adjusting plans or policies before implementation, and to consider all factors.

D-21. The coordinating staff officer, under whose area of interest the action falls, has specific responsibility for coordinating that action. He frequently designates a member of his section to be the action officer for the action under consideration. The action officer and all other interested staff officers examine and correlate all actions and resolve any conflicts. Each staff officer examines the action from his own and the commander's point of view and determines the proper action. He then presents the action to the approving authority for a final decision. Coordination by staff officers includes—

* Coordinating with and providing direction to other staff elements about issues and information.
* Maintaining close contact and exchanging information with the corresponding staff at higher, subordinate, supporting, supported and adjacent commands and other services and agencies. In the joint arena, the G3 has coordinating responsibility not only with the J3 (operations), but also the J5 (plans and policy). The G5 has coordinating responsibility with not only the J5, but also the J3.
* Coordinating with the G5 (S5) for HN support or local civilian support.

Conducting Training

D-22. Every staff officer must assess training requirements across the command within his area of interest. He adds these requirements into the overall

command training plan through the operations officer. The staff officer determines the amount and type of training and requirements for evaluating the training. This includes any command technical training in the staff officer's area of interest. The staff officer is responsible for planning and supervising this training within the command. Examples include—

- The G2 determines specific intelligence training requirements.
- The G5 determines training requirements on treatment and disposition of enemy defectors and enemy prisoners of war.
- The safety officer determines risk management training requirements.

D-23. In addition, every staff member is responsible for supporting the overall training program of the unit with expertise and resources from his area of interest. FMs 7-0 and 7-10 contain more information on training.

Performing Staff Assistance Visits

D-24. Staff officers visit subordinate units to get information for the commander, observe the execution of orders, and provide advice and assistance in their areas of responsibility. Designated representatives make these visits in the commander's name. The staff officer should call on the subordinate unit commander to explain the purpose of his visit. Before leaving, he should report his findings to the subordinate commander and any information he plans to take back to his echelon of command. The staff officer should avoid interfering with the unit commander's responsibilities. If the unit commander misunderstands the higher commander's orders, the staff officer should give additional information and guidance to the subordinate commander or his staff. When the staff officer returns to his headquarters, he makes a brief oral or written report of his observations to his staff principal, CofS, or commander. The CofS provides this report to other staff officers.

Performing Risk Management

D-25. Every staff officer integrates risk management into planning, preparing for, and executing training and operational missions. The staff officer helps the commander minimize unnecessary risk by assessing his functional area and making control measure recommendations to reduce or eliminate unnecessary risk. FM 3-100.14 details the risk management process.

Conducting Staff Inspections

D-26. The commander directs individual officers or teams to conduct staff inspections. He conducts inspections to determine certain conditions within a subordinate unit, such as compliance or conformity with policies and regulations. The inspecting officer notes positive and negative observations. Before the inspection, the inspecting officer informs the unit commander of the inspection's purpose. Afterward, the inspecting officer provides an informal report to the subordinate commander before he leaves. The inspecting officer normally prepares a written report to the commander and furnishes a copy to the inspected unit.

Conducting Staff Writing

D-27. Staff officers prepare a variety of written communications, particularly at division and above, where operations rely primarily on written directives,

reports, orders, and studies. Effective staff writing should convey the writer's exact meaning and not be subject to misinterpretation.

Conducting Staff Research

D-28. Staff research is collecting and evaluating facts to solve problems or provide information. The problem determines the extent of research. Only after analyzing the problem and listing the main issues to consider can the staff officer determine how much and what kind of information to collect. The staff officer must decide when he has enough information to draw valid conclusions. To be valid, conclusions must be relevant to the topic, objective, and supported by the data. The staff officer must arrive at the conclusions through a logical thought process.

Performing Staff Administrative Procedures

D-29. Each staff officer performs administrative procedures to provide continuity for completed staff actions and to allow the staff member or staff section to accomplish tasks efficiently and effectively. Each staff member must manage his administrative activities within his own staff section. Examples include maintaining—

- Policy files of the commander and higher headquarters.
- Current command SOP and, specifically, the internal SOP for the staff member's area of interest.
- Staff section records to provide the commander with essential information.
- Reference files.

Supervising Staff Section and Staff Personnel

D-30. Each staff officer supervises his staff section personnel, including—

- Performing staff supervision of activities and units assigned, attached, or under the operational control (OPCON) of the command (under his area of interest) to ensure adequate support of the command.
- Recommending and coordinating assignments and personnel issues.
- Coordinating procurement, storage, issue, and distribution of equipment.
- Determining, planning, evaluating, and supervising specific training requirements for his staff section.
- Monitoring the maintenance, personnel, and equipment status within his area of interest and advising the commander and responsible staff.
- Organizing and supervising subelements in his area of interest.

SPECIFIC STAFF RESPONSIBILITIES AND DUTIES

D-31. This section describes specific and unique responsibilities and duties of the coordinating, special, and personal staff groups. Coordinating staff officers have primary staff responsibility for several special staff officers. This section describes the relationship between these two staff groups. The coordinating staff officer establishes procedures for coordinating and integrating special staff activities within his area of responsibility. This section also discusses the personal staff officer who is also a special staff officer.

COORDINATING STAFF OFFICERS

D-32. Coordinating staff officers coordinate actions for the commander and special staff officers. Coordinating staff responsibility includes—

- Ensuring that the special staff officer or section has personnel, logistics, facilities, and proper support.
- Coordinating actions and taskings of special staff officers across the entire staff.
- Informing the CofS of the special staff officer's actions.

Assistant Chief of Staff, G1/AG (S1), Personnel

D-33. The G1/AG (S1) is the principal staff officer for all matters concerning human resources support (military and civilian), including manning, personnel services, personnel support, and headquarters management. The G1/AG (S1) also serves as the senior adjutant general officer in the force. A personnel officer is located at every echelon from battalion through corps. Specific responsibilities of the G1/AG (S1) include the following areas and activities.

Manning

- Personnel readiness management, to include—
  - Analyzing personnel strength data to determine current capabilities and projecting future requirements.
  - Unit strength maintenance, including monitoring, collecting, and analyzing data affecting soldier readiness (such as morale, organizational climate, commitment, and cohesion).
  - Monitoring unit strength status and developing plans to maintain strength.
  - Monitoring the deployability of soldiers.
  - Supporting unit linguist requirements through identifying all foreign language-skilled soldiers in the organization. This includes all soldiers, in any military occupation specialty, with a language skill and the administrative support of linguists.
- Personnel replacement management, to include—
  - Advising the commander and staff about individual, team, or crew replacements and replacement system operations.
  - Receiving, accounting, processing, and delivering personnel.
  - Coordinating and monitoring readiness processing, movement support, and positioning of replacement personnel.
  - Preparing estimates for personnel replacement requirements based on estimated casualties, nonbattle losses, and foreseeable administrative losses.
  - Preparing plans and policies to govern the assignment of replacement personnel.
  - Requesting and allocating individual, team, or crew replacements according to G3 priorities.

- Integrating the personnel replacement plan from the G1/AG with the equipment replacement plan from the G4 and the training plan from the G3.
- Personnel accounting, to include—
  - Maintaining a personnel information database.
  - Accounting for task force personnel.
  - Collecting, processing, and storing critical information about soldiers, units, and civilians.
  - Accounting for civilian personnel.

Personnel Services

- Casualty operations management, which involves casualty reporting, notification, and assistance; line-of-duty determination; reporting of status of remains; and casualty mail coordination
- Essential personnel services, to include—
  - Awards program management.
  - Records management, including finance, legal services, and command information.
  - Retention.
  - Planning and coordinating policies for soldiers deemed unfit for combat duty (for example, medical reasons).
  - Managing line-of-duty investigations, congressional and family inquiries, and special correspondence.
  - Finance and legal services
  - Servicemember's Group Life Insurance (SGLI)
  - Command information

Personnel Support

- Postal operations management, which involves operational and technical control, to include EPW mail services.
- Morale, welfare, and recreation (MWR) and community support, including fitness programs.
- Band operations.
- Equal opportunity management.
- Quality-of-life programs, including the assessment of morale and recommending programs to enhance morale.
- Community and family support activities and programs.
- Coordinating interaction with the Army and Air Force Exchange Service (AAFES) and nonmilitary agencies servicing the command, such as the American Red Cross.
- Deploying civilian labor in coordination with the civilian personnel officer (CPO).

Headquarters Management

- Managing the organization and administration of the headquarters.

- Recommending manpower allocation.
- Coordinating and supervising movement, internal arrangement, and space allocation.
- Administrative support for military and civilian personnel, to include leaves, passes, counseling, transfers, awards, and personal affairs.
- Provide information services that include publications, printing, distribution, and Freedom of Information Act (FOIA) material.
- Administrative support for non-US forces, foreign nationals, and civilian internees.
- Administration of discipline, and law and order (in coordination with the provost marshal, including absence without leave (AWOL), desertion, court martial offenses, punishments, and disposition of stragglers.

D-34. Coordinating staff responsibility for the following special staff officers:

- CPO.
- Dental surgeon.
- Equal opportunity adviser (EOA).
- Finance officer.
- Surgeon.
- Veterinary officer.

D-35. Coordinating staff responsibility for the following personal staff officers when they are functioning as special staff officers:

- IG.
- PAO.
- SJA.

Assistant Chief of Staff, G2 (S2), Intelligence

D-36. The G2 (S2) is the principal staff officer for all matters concerning the enemy/threat, the environment as it affects the enemy/threat, intelligence, and counterintelligence (CI). Additionally, the G2 (S2) supports the commander's security programs. An intelligence officer is located at every echelon from battalion through corps. The following areas and activities are specific responsibilities of the G2 (S2).

Intelligence Readiness

- Ensuring the unit maintains intelligence readiness.
- Establishing and maintaining the proper relationships and procedures (based on contingency requirements) with other intelligence staffs, units, and organizations at all times to include supporting the Theater Engagement Plan and during normal garrison activities.
- Establishing and maintaining a flexible intelligence architecture during normal garrison activities to include coordination with the G6/S6 to maintain adequate supporting communications.
- Coordinating with higher echelons, the engineer coordinator (ENCOORD), and G4/S4 to identify requirements for geospatial products before deploying on an operation.
- Preparing the command intelligence-training plan and integrating intelligence, CI, and enemy/threat (organization, equipment,

operations, and handling of EPWs) considerations into other training plans.

- Exercising staff supervision of MI support to the command intelligence-training program.

Intelligence Tasks

- Managing the intelligence process in order to produce and disseminate intelligence to meet the commander's and other users' requirements in a timely manner and to support distributed intelligence production and intelligence reach based on the unit area of intelligence responsibility.
- Managing the intelligence preparation of the battlefield (IPB) process to include integrating the IPB efforts of the rest of the staff and other echelons, and supporting parallel planning during dynamic situations.
- Performing situation development to include updating the enemy/threat, terrain and weather, and civil considerations portions of the common operational picture (COP).
- Providing indications and warnings support to operations.
- Providing intelligence support to targeting to include participating in targeting meetings, performing target development, planning target acquisition, and tracking high-payoff targets.
- Providing intelligence support to battle damage assessment (BDA).
- Providing intelligence support to protection.
- Providing intelligence support to information operations by integrating intelligence products into IO planning and integrating IO considerations into the other intelligence tasks as applicable at that echelon.
- Recommending priority intelligence requirements (PIR) to the commander.
- Performing staff planning and supervision over staff weather officer (SWO).

Intelligence Synchronization

- Synchronizing intelligence support to operations and ISR integration through close coordination with the commander, CoS (XO), G3 (S3), and the other staff members.
- Managing intelligence requirements, to include:
  - Developing and continuously updating a list of intelligence gaps.
  - Analyzing CCIR, PIR, FFIR, and IR in order to develop generic collection tasks and requests for higher and/or adjacent unit or organization (for example, a national agency or the theater JIC) support.
  - Developing the intelligence synchronization plan.
  - Satisfying requirements through intelligence reach.
  - Evaluating collection reporting and intelligence.
  - Tracking requirements and disseminate intelligence to satisfy first CCIR, then PIR, FFIR, IR, and other requirements.

- Providing the commander and G3 (S3) the initial intelligence synchronization plan and assist the G3 (S3) in development of the initial ISR plan in order to facilitate ISR integration.
    - Advising the commander on unit intelligence production capabilities and limitations.
    - Advising the commander on collection capabilities and limitations.
    - Assisting in translating the commander's intent, concept of operation, and initial CCIR into the initial focus and intent for collection.
    - Providing guidance for actions related to expediting the handling procedures for captured threat personnel, equipment, and documents.
    - Recommending to the G3 (S3) initial taskings of assigned, attached, and supporting intelligence collection assets.
    - Requesting support for higher and/or adjacent unit or organization intelligence collection, processing, and/or production.
- Recommending to the commander and G3 (S3) adjustments to the ISR plan in order to facilitate ISR integration.
    - Assessing the effects of collection by maintaining requirements visibility, asset visibility, and ISR assessment capability.
    - Recommending to the G3 (S3) refocus and new taskings of assigned, attached, and supporting intelligence collection assets.
    - Requesting support for higher and/or adjacent unit or organization intelligence collection, processing, and/or production.
    - Adjusting the production and dissemination portion of the intelligence synchronization plan.

Other Intelligence Support
- Supporting the conduct of collection.
    - Providing intelligence updates, other products, and additional support to ISR integration, scheme of maneuver, and mission accomplishment.
    - Advising the commander so that all collection, production, and dissemination adhere to special security, legal, and regulatory restrictions.
    - Facilitating the MI unique deconfliction of collection among assigned, attached, and supporting intelligence collection assets and other collection assets within the unit's AO.
- Preparing the Intelligence Estimate and the Intelligence Annex to the operations order (OPORD).
- Coordinating technical control and technical support for MI assets and units.
- Debriefing friendly personnel when necessary.
- Identifying unit linguist requirements pertaining to intelligence support; determine all foreign languages (spoken and written) and

dialects needed for mission accomplishment; and when required, coordinate for security investigations of local hire linguists.

Counterintelligence (CI)
- Coordinating for CI activities:
    - Identifying enemy intelligence collection capabilities, such as efforts targeted against the unit.
    - Evaluating enemy intelligence capabilities as they affect OPSEC, countersurveillance, signals security (SIGSEC), security operations, deceptions planning, psychological operations (PSYOP), rear area operations, and force protection.

Support to Security Programs
- Supervising the command and personnel security program.
- Evaluating physical security vulnerabilities to support the G3.
- Performing staff planning and supervision over special security office.

D-37. Coordinating staff responsibility for following special staff officer: SWO.

Assistant Chief of Staff, G3 (S3), Operations

D-38. The G3 (S3) is the principal staff officer for all matters concerning training, operations and plans, and force development and modernization. An operations officer is located at every echelon from battalion through corps. Specific responsibilities of the G3 (S3) include the following areas and activities:

Training
- Preparing and supervising the execution of training within the command.
- Preparing the training guidance for the commander's approval and signature.
- Assisting the commander in developing the unit's mission-essential task list (METL).
- Identifying training requirements based on the unit's METL and training status.
- Determining requirements for and allocation of training resources.
- Organizing and conducting internal schools and obtaining and allocating quotas for external schools.
- Planning and conducting training inspections, tests, and evaluations.
- Maintaining the unit readiness status of each unit in the command.
- Compiling training records and reports as appropriate.

Operations and Plans
- Preparing, coordinating, authenticating, publishing, and distributing the command SOP, OPLANs, OPORDs, fragmentary orders (FRAGOs), warning orders (WARNOs), and terrain requirements and products involving contributions from other staff sections.
- Planning, coordinating, and supervising exercises.
- Participating in targeting meetings.
- Reviewing plans and orders of subordinate units.

- Synchronizing tactical operations with all staff sections.
- Reviewing entire OPLANs and OPORDs for synchronization and completeness.
- Ensuring necessary combat support (CS) requirements are provided when and where required.
- Coordinating with the G5 on using tactical forces to establish civil government.
- Integrating and managing the ISR effort through an integrated staff process and procedure.
- Developing the ISR plan, in conjunction with rest of the staff that produces an initial ISR order to answer initial ISR and support the commander's visualization.
- Developing the ISR Annex to the OPORD, in conjunction with the rest of the staff.
- Integrating ISR into the concept of operations.
- Synchronizing ISR, in conjunction with the rest of the staff during the entire operations cycle.
- Allocating ISR tasks taking into account recommendations of entire staff.
- Retasking and refocusing collection assets during execution based on recommendations from the entire staff.
- Integrating fire support into all operations.
- Coordinating with the commander, CofS, and G6 to establish, oversee, and supervise battle staff IM activities of the operations center/TOC.
    - Gives direction and guidance to the G6 and battle staff on how the operations center supports the commander's exercise of C2.
    - Provides input to the CIMP so the G6/IMCOORD and the battle staff can provide RI and INFOSYS technical support.
- Planning non-administrative troop movement, including route selection, priority of movement, timing, security, bivouacking, quartering, staging, and preparing movement orders.
- Recommending priorities for allocating critical command resources, including—
    - Time (available planning time).
    - Ammunition basic loads and the controlled supply rate (CSR) of ammunition. Approval of CSR after G4/MMC input.
    - Personnel and equipment replacements.
    - Electronic frequencies and secure key lists.
- Developing ammunition required supply rate (RSR) in coordination with the G2 and G4.
- Requisitioning replacement units through operational channels.
- Establishing criteria for reconstitution operations.
- Recommending use of resources to accomplish both maneuver and support, including resources required for deception purposes.
- Coordinating and directing terrain management.

- Integrating space support into all operations.
- Determining combat service support (CSS) resource requirements in coordination with the G1 and G4.
- Participating in COA and decision support template (DST) development with the G2 and FSCOORD.
- Coordinating with the ENCOORD, G2, G5, and surgeon to establish environmental vulnerability protection levels.
- Recommending general locations of command posts.
- Recommending task organization and assigning missions to subordinate elements, which includes—
    - Developing, maintaining, and revising the troop list.
    - Organizing and equipping units, including estimating the numbers and types of units to organize and the priority for phasing in or replacing personnel and equipment.
    - Receiving units, detachments, or teams, including orienting, training, and reorganizing them.
- Ensuring IO contributes to achieving information superiority.
- Integrating space support, IO, military deception, psychlogical operations (PSYOP), operations security (OPSEC), and fire support into all operations.
- Coordinating with the G1 (CPO) for civilian personnel involvement in tactical operations.
- Supporting linguist requirements to include consolidating linguist requirements and establishing priorities for using linguists to support their unit's operations.

Force Development and Modernization

- Developing and recommending a planned or programmed force structure.
- Processing procedures for unit activation, inactivation, establishment, discontinuance, and reorganization (force accounting).
- Fielding new weapons and equipment systems (force modernization).
- Evaluating the organizational structure, functions, and workload of military and civilian personnel to ensure their proper use and requirements (manpower utilization and requirements).
- Allocating manpower resources to subordinate commands within established ceilings and guidance (manpower allocation).
- Developing and revising unit force data for documenting any changes to the MTOE and modification table of distribution and allowances (MTDA).
- Planning and conducting formal, on-site manpower and equipment surveys.
- Recording and reporting data for information, planning and programming, allocation, and justification (manpower reports).
- Ensuring MTDA and MTOE documents reflect the minimum essential and most economical equipment needed to accomplish the assigned

mission. The G3 determines qualitative and quantitative personnel requirements for new equipment and systems.

Staff Planning and Supervision over—
- Force protection.
- Army airspace command and control (A2C2).
- Area damage control.
- Electronic warfare.
- IO.
- Military deception.
- PSYOP.
- OPSEC.
- Rear area and base security.
- Discipline and law and order (coordinates with the G1 on appropriate administrative procedures).
- Activating and deactivating units.
- Operations concerning EPWs and civilian internees, in coordination with the provost marshal.
- Information operations (IO)

D-39. Coordinating staff responsibility for the following special staff officers:
- Air defense coordinator (ADCOORD).
- Air liaison officer (ALO).
- Aviation coordinator (AVCOORD).
- Chemical officer (CHEMO).
- Deception officer.
- Electronic warfare officer (EWO).
- Engineer coordinator (ENCOORD).
- Explosive ordnance disposal (EOD) officer.
- Fire support coordinator (FSCOORD).
- Historian.
- IO Coordinator (IOCOORD)
- Liaison officer (LNO).
- Marine liaison team (MLT) commander.
- OPSEC officer.
- Provost marshal (PM).
- PSYOP officer.
- Safety officer.
- Space operations officer (SOO).
- Special operations coordinator (SOCOORD).
- Theater airlift liaison officer (TALO).

Assistant Chief of Staff, G4 (S4), Logistics

D-40. The G4 (S4) is the principal staff officer for coordinating the integration of supply, maintenance, transportation, and services for the command. He is the link between the support unit and his commander plus the rest of the

staff. The G4 (S4) assists the support unit commander in maintaining logistics visibility with the commander and the rest of the staff. A logistics officer is located at every echelon of command from battalion through corps. At brigade and battalion levels, the S4 not only coordinates activities but also executes requirements for the commander and unit. The G4 (S4) has specific responsibility in the following areas and activities:

Logistics Operations and Plans (General)

- Developing with the G3 the logistics plan to support operations.
- Coordinating with the G3, G2, and ENCOORD to requisition cataloged topographic foundation data (FD) and existing mission specific data sets (MSDS) from the Defense Logistics Agency.
- Coordinating with the G3 and G1 on equipping replacement personnel and units.
- Coordinating with supporting unit commander on the current and future support capability of that unit.
- Coordinating the selection and recommending main supply routes (MSRs) and logistic support areas, in coordination with the ENCOORD, to the G3.
- Performing logistic preparation of the battlefield in coordination with support command.
- Recommending command policy for collecting and disposing of excess property and salvage.

Supply

- Determining supply requirements (except for medical requirements). This function is shared with the support unit commander and the G3.
- Recommending CSS priorities and controlled supply rates (CSR).
- Coordinating all classes of supply, except Class VIII (medical), which is coordinated through medical supply channels.
- Coordinating the requisition, acquisition, and storage of supplies and equipment, and the maintenance of materiel records.
- Ensuring, in coordination with the provost marshal, that accountability and security of supplies and equipment are adequate.
- Calculating and recommending to the G3 basic and prescribed loads and assisting the G3 in determining the required supply rates.
- Coordinating and monitoring the collection and distribution of excess, surplus, and salvage supplies and equipment.
- Directing the disposal of captured enemy supplies and equipment after coordination with the G2.
- Coordinating the allocation of petroleum products to subordinate units.
- Coordinating host nation support (HNS) with the G5 (S5).

Maintenance

- Monitoring and analyzing the equipment readiness status.
- Determining, with the support command, maintenance workload requirements (less medical).
- Coordinating, with the support command, equipment recovery and evacuation operations.

- Determining maintenance time lines.

Transportation

- Conducting operational and tactical planning to support movement control and mode and terminal operations.
- Planning administrative troop movements ICW G3 (S3).
- Coordinating transportation assets for other military services.
- Coordinating with G5 (S5) for HN support.
- Coordinating with the G1 and the provost marshal on transporting replacement personnel and EPWs.
- Coordinating special transport requirements to move the CP.
- Coordinating with the G3 for CSS of tactical troop movement.

Services

- Coordinating the construction of facilities and installations, except for fortifications and signal systems.
- Coordinating field sanitation.
- Coordinating organizational clothing and individual equipment exchange and replacement.
- Coordinating or providing food preparation, water purification, mortuary affairs, aerial delivery, laundry, shower, and clothing and light textile repair.
- Coordinating the transportation, storage, handling, and disposal of hazardous material or hazardous waste.
- Coordinating unit spill prevention plans.
- Supporting the linguist requirements to include contracting for, planning, and providing logistic support to contracted linguists.

Staff Planning and Supervision

- Identifying requirements and restrictions for using local civilians, EPWs, and civilian internees and detainees in CSS operations.
- Identifying requirements that may be met through contracting.
- Coordinating with SJA on legal aspects of contracting.
- Coordinating with the resource manager (RM) and finance officer on the financial aspects of contracting.
- Coordinating real property control and fire protection for facilities.
- Coordinating staff responsibility for the transportation officer.

D-41. Coordinating staff responsibility for following special staff officer: transportation officer.

Assistant Chief of Staff, G5 (S5), Civil-Military Operations

D-42. The G5 (S5) is the principal staff officer for all matters concerning civil-military operations. His focus is primarily to establish the commander's civil-military operations center (CMOC), provide evaluation of civil considerations within missions—identifying the civil centers of gravity—and prepare the groundwork for the transition. The G5 advises the commander on the military's impact on the civilians within the AO, relative to the complex relationship of these civilians with the terrain and institutions over time. The G5 (S5)

has responsibility to enhance the relationship between military forces and civilian authorities and personnel in the AO. The G5 (S5) is required at all echelons from battalion through corps level, but authorized only at division and corps levels. Once deployed, units below division level may be authorized an S5. The G5 (S5) has specific responsibility in the following areas and activities:

Civil-Military Operations (CMO)

- Advising the commander of the civilian impact on military operations.
- Advising the commander on his legal and moral obligations concerning the impact of military operations on the local populace (economic, environmental, and health) for the short and long term.
- Minimizing civilian interference with operations, including dislocated civilian operations, curfews, and movement restrictions.
- Advising the commander on employing other military units that can perform CMO missions.
- Operating a CMOC to maintain liaison with other US government agencies; HN civil and military authorities; and nongovernmental and international organizations in the AO.
- Planning community relations programs to gain and maintain public understanding and good will, and to support military operations.
- Coordinating with the SJA about advice to the commander on rules of engagement when dealing with civilians in the AO.
- Coordinating with the FSCOORD on protected targets.
- Providing the G2 information gained from civilians in the AO.
- Coordinating with the PSYOP officer on trends in public opinion.
- Coordinating with the surgeon on the military use of civilian medical facilities, materials, and supplies.
- Assisting the G1 with coordination for local labor resources.
- Coordinating with the PAO and PSYOP officer to ensure disseminated information is not contradictory.
- Coordinating with the PAO on supervising public information media under civil control.
- Providing instruction to units or officials (friendly, or HN civil or military) and the population in identifying, planning, and implementing programs to support the civilian populations and strengthen the HN internal defense and development.
- Identifying and assisting the G6 with coordinating military use of local communications systems.
- Providing technical advice and assistance in reorienting enemy defectors, EPWs, civilian internees, and detainees.
- Participating in targeting meetings.
- Coordinating with the PM to control civilian traffic in the AO.
- Assisting the G4 with coordinating facilities, supplies, and other material resources available from the local civil sector to support military operations.

- Coordinating with the G1 and SJA in establishing off-limits areas and establishments.
- Coordinating with the SJA on civilian claims against the US government.

Staff Planning and Supervision
- Attached civil affairs (CA) units.
- Military support to civil defense and civic action projects.
- Protection of culturally significant sites.
- Humanitarian civil assistance and disaster relief.
- Noncombatant evacuation operations (NEO).
- Emergency food, shelter, clothing, and fuel for local civilians.
- Public order and safety as they apply to military operations.

Assistant Chief of Staff, G6 (S6), Command, Control, Communications, and Computers (C4) Operations

D-43. The G6 (S6) is the principal staff officer for all matters concerning C4 operations. A G6 (S6) is located at all echelons of command from battalion through corps. He is responsible for advising the commander, staff, and subordinate commanders on C4 operations matters.

D-44. C4 operations include network operations (NETOPS) and IM. NETOPS includes network management (NM), information dissemination management (IDM), and information assurance (IA). IM includes RI and INFOSYS functions. IM representatives within the command post will be positioned to best support the commander's intent, with priority normally to the G3 operations and other critical cells within the CP. The RI Officer will operate in close coordination with each section. See FM 6-0.6 and manuals with SIGCEN proponency (FM 6-02 series) for refinement of the duties and responsibilities of the individuals performing IM functions.

C4 Operations
- Prepares, maintains, and updates C4 operations estimates, plans, and orders, including the Command Information Management Plan (CIMP).
- Monitors and makes recommendations on all technical C4 operations activities within the command.
- With the G2 and IOCOORD, assisted by the Land Information Warfare Activity (LIWA), assesses C4 operations vulnerability and risk management.
- Recommends C4 operations network priorities for battle command.
- Recommends locations for CPs based on the information environment.
- Ensures that redundant communications means are planned and available to pass time-sensitive critical information.
- Recommends EEFI for C2.
- Establishes automation systems administration procedures for all automation software and hardware employed by the force.
- Coordinates, plans, and directs all command IA activities.

- In accordance with the CIMP, establishes procedures for collecting, processing, displaying, storing, and disseminating data and information within the headquarters and staff sections and major subordinate commands (MSCs) in planning, preparing for, executing, and assessing operations to accomplish the mission.
- Manages and controls information network capabilities and services.

NETOPS

- Coordinates, plans, and directs all C4 operations support interfaces with joint and coalition forces, including HN support interfaces.
- Coordinates, plans, and directs information network capabilities and services from the power-projection sustaining base to the forward-most fighting platforms.
- Coordinates, plans, and directs communications protocols and user interfaces from within the global information grid (GIG) down to the battlefield operating systems (BOS) on the tactical Internet (TI). The GIG is the globally interconnected, end-to-end set of information capabilities, associated processes, and personnel that manage and provide information on demand.
- Coordinates with the G5/S5 on the availability of commercial information systems and services for military use.
- Coordinates with the SOO for the unit requirements for commercial and military SATCOM.
- Follows higher headquarters' NETOPS policies and procedures for network interfaces.
- Manages radio frequency allocations and assignments and provides spectrum management.
- Ensures that IDM meets mission IM requirements of the command. IDM provides a managed flow of RI based on the commander's priorities.
- Configures wide-area networks (WANs).
- Provides IA by—
    - Directing and supervising information and system security (ISS) functions, a subset of IA.
    - Ensuring the appointment of an information assurance security officer (IASO) in all elements of the force.
    - Coordinating, planning, and directing communications security (COMSEC) measures, including the operation of the information assurance systems security office (IASSO).
    - Providing IA direction and guidance to information assurance security coordinators (IASCs).

IM In Coordination with the Battle Staff:

- Prepare, maintain, and update command IM estimates, plans, and orders per the CIMP.
- Based on G3 and G6 direction and guidance, support CIMP implementation at the tactical operations center (TOC) and main CP.

- Facilitate the timely flow of RI about mission, enemy, terrain and weather, troops, time available, and civil considerations (METT-TC) and enable the staff to process, display, store, and disseminate the COP.
- With the staff, establish procedures that enable the staff to maintain a timely flow of RI and establish INFOSYS to develop the COP; coordinate staff interaction necessary to develop the COP within operations centers/TOCs, and at each MSC echelon.
- With the staff, provide the architecture necessary to collect, process, display, store, and disseminate RI to support C2 functions.
- With the G3 and the staff, coordinate, plan, and direct the establishment of C2 systems architecture that provide a sound foundation for current and future IM.
- Facilitate the staff presentation of RI according to quality criteria of accuracy, timeliness, usability, completeness, precision, and reliability.
- Provide INFOSYS support through—

    - Directing and supervising automation management functions, a subset of INFOSYS.

    - Planning and ensuring that deployed non-military INFOSYS are open and nonproprietary, with commonly accepted standards and protocols that interoperate with military INFOSYS.

    - Establishing and providing automation configuration management for all INFOSYS hardware/software employed by the force.

    - Coordinating planning, and directing the use of C2 INFOSYS and automation software and hardware employed by the command.

Staff Planning and Supervision

- Supervises the activities of the NETOPS officer, IA staff manager, IMCOORD, RI officer, and INFOSYS officer.
- Provides staff assistance to all staff sections on tactics, techniques, and procedures (TTP) for performing IM functions within their staff section and within the staff.

Support Operations Officer or Materiel Officer

D-45. The support operations officer or materiel officer is the principal staff officer for coordinating logistics and combat health support to supported units. He provides technical supervision for the CSS mission of the support command. He is the key interface between the supported unit and support command. A support operations officer or materiel officer is located in support commands and battalions. The support operations officer or materiel officer has specific responsibility in the following:

- Advises the commander on support requirements versus support assets available.
- Coordinates external support requirements for supported units.
- Synchronizes support requirements to ensure they remain consistent with current and future operations.
- Plans and monitors support operations and makes adjustments to meet support requirements.

- Coordinates with the S4 to track available CSS capabilities and assets.
- Coordinates support locations and time schedules with the S2, S3, and supported units.
- Prepares and distributes the external service support SOP that provides guidance and procedures to supported units.
- Provides input to the supported units on the logistics estimate and service support annex. Prepares the support command's external service support annex.
- Provides technical assistance to supported units.

G1/ AG	CofS	G3
CPO Dental Surgeon EOA Finance Surgeon Veterinarian NOTE: IG PAO SJA	HQ Cmdt SGS RM	AMDCOORD ALO AVCOORD CHEMO Deception Officer EWO ENCOORD EOD FSCOORD Historian IOCOORD LNO MLT Cdr OPSEC PM PSYOP Safety SOCOORD SOO TALO
	G4 Trans Off	
G2 SWO	**G5**	
	G6	

NOTE: The IG, PAO, and SJA are personal staff officers who coordinate (if necessary) through the G1 (S1) when performing special staff functions.

Figure D-1. Coordinating Staff Responsibility for Special Staff

SPECIAL STAFF OFFICERS

D-46. Every staff has special staff officers. This section addresses the specific duties of each special staff officer. The number of special staff officers and their duties and responsibilities vary with the level of command, the authorizations, the desires of the commander, and the size of the command. If, at a given echelon, a special staff officer is not assigned, the corresponding coordinating staff officer assumes those responsibilities. During operations, they often work in locations of the CP designated by the commander, CofS, or their supervising coordinating staff officer that best support the conduct of the operation.

D-47. Figure D-1 shows coordinating staff responsibility for special staff officers.

Chief of Staff

D-48. The following special staff officers are the coordinating staff responsibility of the CofS.

D-49. **Headquarters Commandant.** The headquarters commandant is responsible for soldiers assigned to the specific headquarters. He is located at corps, division, and major support command levels. The headquarters commandant is responsible for these areas and activities:

- Local headquarters security, including construction of defensive positions.
- Arranging and moving the headquarters.
- Training and morale activities for headquarters personnel.
- Food service, quartering, medical support, field sanitation, and supplies for headquarters personnel.
- Receiving and accommodating visitors and augmentees.
- Motor transportation organic to or allocated for use by the headquarters.
- Maintaining equipment organic to or allocated for use by headquarters.

D-50. **Secretary of the General Staff (SGS)**. The SGS is the special staff officer who acts as XO for the CofS. There is a SGS at corps, division, and major support command levels or wherever there is a general officer with a staff. The SGS's specific responsibilities are—

- Planning and supervising conferences chaired by the commander, deputy or assistant commanders, or the CofS.
- Directing preparation and monitoring execution itineraries for distinguished visitors to the headquarters.
- Monitoring preparation and execution of all official social events and ceremonies involving the commander, deputy or assistant commanders, and the CofS.
- Acting as the informal point of contact for LNOs.

D-51. **Resource Manager (RM) or Comptroller**. The RM or comptroller is responsible for budget preparation and RM analysis and implementation. RMs or comptrollers are normally located at corps and division levels. During operations, comptroller functions within a joint operations area are normally transferred to the ARFOR. However, specific comptroller functions may occur at corps or division level. The RM's or comptroller's specific responsibilities are:

- Supervising the development, training resource synchronization, evaluation, revision, defense, and execution of the command budget estimate and the program objective memorandum (POM).
- Establishing plans, policies, and procedures for developing and implementing the command's budget.
- Assisting the staff on budget methods and formats; techniques of preparation, resource synchronization, presentation, and analysis; and developing workload information, expense (cost) factors, cost capturing, and statistics.

- Providing financial planning and assistance during the transition to war and throughout the conflict, including mobilization, redeployment and demobilization.
- Providing fund ceilings to subordinate units.
- Monitoring execution of funded programs.
- Coordinating required program budget activity meetings.
- Identifying funding sources for operations; acquiring, reprogramming, controlling, and distributing funding authority to subordinate RM and ordering officers.
- Overseeing cost capturing to support requests for funding authority for operations and requests to replace funds shifted from other programs (mission training) to support an operation.
- Providing resource stewardship, primary linkage to logistics financial system for fiscal constraints, and interface with the contracting authorities.
- Assisting with contracting HN support in logistics-based development as part of the contracting implementation team.
- Developing policies, procedures, and techniques to ensure the most cost-advantageous and effective methods of purchasing commercial products and services within fiscal and regulatory constraints.
- Monitoring administrative controls for accounting and reporting receipt and disbursement of public funds, including special contingency funds.
- Developing and maintaining effective financial and management controls, procedures, and systems for the best use of resources.
- Developing policies, procedures, and techniques to govern the establishment, maintenance, and operation of the command's budget accounting system.
- Implementing resource control procedures and serving as the primary fund-certifying officer.
- Conducting audits of certain nonappropriated funds.
- Performing chief financial officer training and reviews and audit compliance services.
- Supervising the implementation of RM policies.
- Performing real-time audits of command systems, procedures, and internal controls to ensure their proper implementation and effective operation.
- Developing and implementing an internal review program to safeguard, account for, properly use, and care for resources used in accomplishing the command's mission.
- Providing integrated and independent progress and statistical reports and analyses of command programs. Examples are qualitative evaluations of progress toward meeting programmed objectives and using resources to support the command's missions.
- Developing a zero-based budget using HQDA cost factors for operations tempo (OPTEMPO).
- Developing annual non-OPTEMPO requirements.

G1/AG (S1)

D-52. The following special staff officers are the coordinating staff responsibility of the ACofS, G1/AG (S1).

D-53. **Civilian Personnel Officer.** The CPO is responsible for managing and administering the civilian employee personnel management program. The CPO is a civilian employee and has a permanent position on the staff at division and corps levels. The CPO's specific responsibilities are—

- Advising the commander and staff and supervising the management and administration of the civilian employee personnel management program within the command.
- Administering civilian personnel management laws and regulations.
- Developing, with other staff officers, plans and standby directives for procuring, using, and administering the civilian labor force and using local labor in foreign areas in an emergency.
- Participating, when appropriate, in negotiations with host countries on labor agreements.

(AR 690 discusses CPO functions.)

D-54. **Dental Surgeon.** The dental surgeon, located at corps and divisions, is responsible for coordinating dental activities within the command. His specific responsibilities are—

- Coordinating dental activities with the command surgeon.
- Exercising staff supervision and providing technical assistance to dental activities.
- Planning and supervising the following dental functions:
  - Preventive dentistry program.
  - Oral health and readiness.
  - Maintaining professional standards and levels of dental care and treatment.
  - Managing the panoramic x-ray identification program.
  - Establishing priorities for dental care and treatment.
  - Professional training of dental personnel.
- Developing a program for dental support of humanitarian and civilian action operations.
- Providing advice and technical assistance in constructing, rehabilitating, and using dental facilities.

D-55. **Equal Opportunity Advisor (EOA).** The EOA is responsible for coordinating matters concerning equal opportunity for service members and their families. An EOA is located at every echelon of command. The EOA's specific responsibilities are—

- Advising and assisting the commander and staff on all equal opportunity (EO) matters, including sexual harassment, discrimination, and affirmative action.
- Recognizing and assessing indicators on institutional and individual discrimination and sexual harassment.

- Recommending remedies and developing affirmative action and EO plans and policies to reduce or prevent discrimination and sexual harassment.
- Monitoring affirmative action and EO plans and policies.
- Collecting and processing demographic data concerning all aspects of EO climate assessment.
- Managing or conducting all EO education and training programs within the command.
- Receiving and helping process complaints:
  - Conducting inquiries in accordance with the commander's guidance.
  - Consulting with the servicing judge advocate during all informal and formal investigations.
- Planning and conducting ethnic observances.

(AR 600-20 discusses the duties and responsibilities of the EOA.)

D-56. **Finance Officer.** The finance officer, responsible for coordinating and providing finance services to the command, is also the finance unit commander. The finance officer's specific responsibilities are—

- Providing finance policy and technical guidance.
- Supervising disbursement of funds.
- Providing US and non-US pay functions involving military, DOD civilian, foreign nation, HN, civilian internees, EPW, and travel and miscellaneous pay.
- Advising the commander and staff on the current economic situation, including the economic impact of expenditures on the local economy, the availability and status of banking facilities in the command's AO, and the command's currency control program.
- Performing limited funds and nonappropriated funds accounting, as determined by theater policy.
- Providing banking and currency support.
- Coordinating financial support of procurement and contracting.
- Coordinating local procurement support with the G1 (S1) for personnel, and with the G4 (S4) for materials and services.
- Stationing subordinate finance units with their supporting operating systems to support battlefield procurement and pay operations.
- Monitoring commercial accounts, which involves payment for supplies, equipment, and services procured to support the battlefield logistics system.
- Providing family support at home station.
- Making solatium and other claims payment in coordination with SJA.
- Supporting bounty programs such as turning in weapons for cash.

D-57. **Surgeon.** The surgeon is responsible for coordinating health assets and operations within the command. A surgeon is authorized on all staffs from battalion through corps levels. He may or may not be a medical unit commander. His specific responsibilities are—

- Health education and combat lifesaver training for the command.

- Medical evacuation, including Army dedicated medical evacuation platforms (air and ground) and coordinating for US Air Force aeromedical evacuation aircraft.
- Combat stress control program.
- Mass casualty plan.
- Provision of medical care to EPWs.
- Providing medical care to civilians as required by the Law of Land Warfare.
- Provision of medical treatment support on an area basis.
- Hospitalization support of sick, injured, or wounded soldiers.
- Veterinary food inspection, animal care, and veterinary preventive medicine activities of the command, as required and in coordination with the veterinary officer.
- Preventive medicine services to include the medical threat, pre- and post-health assessments, medical surveillance activities, pest management, environmental and occupational health hazards, food service sanitation, monitoring drinking water supplies, and field hygiene and sanitation activities.
- Medical laboratory service.
- Combat health logistics, including blood management.
- Combat health support of humanitarian assistance and disaster relief operations.
- Supervising and preparing health-related reports and statistics.
- Collecting and analyzing operational data for on-the-spot adjustments in the medical support structure and for postwar combat- and material-development studies.
- Advising on command health services and health matters concerning the occupied or friendly territory within the commander's AO.
- Formulating the combat health support plan.
- Coordinating with the G2 (S2) to obtain national medical intelligence reports and summaries.
- Assisting in coordinating the support of the area medical laboratory in receiving biomedical samples and initially identifying biological warfare (BW) agents.
- Advising on the effects of the medical threat–including environmental, endemic and epidemic diseases, NBC weapons, and directed-energy devices–on personnel, rations, and water.
- Recommending use of nondedicated transportation assets for evacuation if required.
- Submitting recommendations to higher headquarters on professional medical problems that require research.
- Maintaining medical records within the command according to the requirements established in Army Regulation (AR) 40-66.
- Determining the medical workload requirements (patient estimates) based upon the casualty estimate determined by the G1(S1)/AG.
- Advising how operations affect the public health of personnel and the indigenous populations.

- Examining and recommending use or processing of captured medical supplies.
- Advising the command and coordinating with the G5 on public health issues involving military operations.
- Under Force XXI, the division surgeon reports directly to the Chief of Staff and the brigade surgeon reports directly to the XO due to the size and staffing of the surgeon's section.

D-58. **Veterinary Officer.** The veterinary officer is responsible for coordinating assets and activities concerning veterinary service within the command. A Veterinary Corps officer is authorized at corps level. His specific responsibilities are—

- Coordinating veterinary activities with the surgeon and other staff.
- Determining requirements for veterinary supplies and equipment.
- Ensuring the safety of food and food sources.
- Advising on health and operational risks of animal disease, to include possible BW events.
- Monitoring the sanitation of food storage facilities and equipment.
- Managing veterinary equipment and facilities and coordinating the housing of animals.
- Participating in civil-military operations.
- Coordinating the use of medical laboratory services by veterinary personnel.
- Preparing reports on command veterinary activities.

G2 (S2)

D-59. The following special staff officer is the coordinating staff responsibility of the ACofS, G2 (S2).

D-60. **Staff Weather Officer (SWO).** The SWO is responsible for coordinating operational weather support and weather service matters through the G2 (S2). The SWO is an Air Force officer or noncommissioned officer who leads a combat weather team of two or more personnel. Typically, a SWO supports corps, divisions, aviation brigades, and special operation forces.

- Coordinating weather support procedures (both for garrison and during deployments) prior to deployment with the supported Army command.
- Advising the Army commander on Air Force weather capabilities, limitations, and the ways in which weather can enhance combat operations.
- Assisting the G2 (S2) and staff in producing weather displays, graphical overlays for the COP, and weather-effects tactical decision aids that display the effects of weather on Army platforms, and components, among others.
- Assisting the G2/S2 in arranging indirect weather support for subordinate units such as tactical unmanned aerial vehicles.
- Evaluating and disseminating weather products and data, and making products and data available in a client/server fashion to other Army Battle Command Systems (ABCS).

- Advising the Air Force on Army command operational weather support requirements.
- Assisting the G2/S2 in monitoring the weather support mission, identifying responsibilities, and resolving weather support deficiencies.

G3 (S3)

D-61. The following special staff officers are the coordinating staff responsibility of the ACofS, G3 (S3).

D-62. **Air and Missile Defense Coordinator (AMDCOORD).** The AMDCOORD is responsible for coordinating ARFOR air and missile defense activities and plans with the Area Air Defense Commander, JFACC, and Airspace Control Authority (ACA) on the planning and use of all joint air and missile defense systems, assets, and operations including Army air defense artillery (ADA), JFACC defensive counter air, and Navy/Marine surface-to-air missile systems. ARFOR air and missile defense plans are deconflicted and synchronized with the AADC's area air defense plan (AADP), the JFACC's joint air operations plan (JAOP) and daily air tasking order (ATO), and the ACA's airspace control plan (ACP) and daily airspace control order (ACO). The AMDCOORD is the senior air defense artillery officer in the command. He is also the commander of an ADA unit supporting the command. An AMDCOORD is at corps and division levels. The assistant or deputy AMDCOORD is a permanent position on the staff representing the AMDCOORD in his absence. The AMDCOORD's specific responsibilities are—

- Providing air and missile attack early warning to the supported command.
- Disseminating air defense ROE, weapons control status, and air defense warnings to subordinate units.
- Disseminating air tasking order (ATO) and airspace control order (ACO) information to ADA units. (ATO and ACO information is normally received electronically through ABCS systems which, in turn, comes from theater battle management core systems (TBMCS) via the JFACC and ACA, respectively).
- Coordinating airspace control measures to support air and missile defense (AMD) operations.
- Recommending offensive counterair, defensive counterair, and theater missile defense targets and priorities based on enemy air and missile capability assessment.
- Coordinating with the G2 (S2) to ensure that surveillance and intelligence units locate enemy air support assets.
- Coordinating AD sensor management.
- Participating in targeting meetings.
- Recommending active and passive AD measures.
- Determining requirements and recommending assets to support AMD.
- Providing AMD input to the airspace control plan.
- Planning and coordinating airspace with the aviation liaison officer (AVLO); ALO; FSCOORD; G3 (S3) air officer; and other airspace users.

AMDCOORD representatives from organic ADA units may also serve as members of the A2C2 cell.

- Providing information on the status of AMD systems, air and missile attack early warning radars, and ADA ammunition on hand.
- Recommending to the G3 the ADA ammunition RSR.
- Providing an estimate of the adequacy of the ADA ammunition CSR.
- Coordinating and synchronizing ARFOR AMD with joint air and missile defense systems.
- In coordination with the JAG, review and recommend joint counterair ROE and procedures.

D-63. **Air Liaison Officer.** The ALO is responsible for coordinating aerospace assets and operations such as CAS, air interdiction, joint suppression of enemy air defense (JSEAD), reconnaissance, and airlift. The ALO, authorized at corps, division, and brigade levels, is the senior Air Force officer with each tactical air control party (TACP). His specific responsibilities are—

- Advising the commander and staff on employing aerospace assets.
- Operating and maintaining Air Force tactical air direction (TAD) radio net and Air Force air request net (AFARN).
- Transmitting requests for immediate close-air and reconnaissance support.
- Transmitting advance notification of impending immediate airlift requirements.
- Coordinating tactical air support missions with the fire support element and the appropriate A2C2 element.
- Acting as liaison between AMD units and air control units.
- Planning the simultaneous employment of air and surface fires.
- Supervising forward air controllers (FACs) and the TACP.
- Integrating air support sorties with the Army unit scheme of maneuver.
- Serving as a member of the targeting cell.
- Directing CAS missions.
- Providing Air Force input into the A2C2.

D-64. **Aviation Coordinator.** The AVCOORD is responsible for coordinating Army aviation assets and operations. The AVCOORD is the senior aviation officer in the force. He is also the commander of an aviation unit supporting the command. The assistant or deputy AVCOORD is a permanent position on the staff representing the AVCOORD in his absence. An AVCOORD is authorized at corps and division levels. His specific responsibilities are—

- Exercising staff supervision and training over Army aviation operations.
- Monitoring the aviation flying-hour, standardization, and safety program.
- Planning and supervising Army aviation operations.
- Providing technical advice and assistance on using Army aviation for evacuation (medical or other).

- Participating in targeting meetings.

D-65. **Chemical Officer**. The CHEMO is responsible for using chemical assets and NBC defense and smoke operations. A CHEMO is at every echelon of command. His specific responsibilities are—

- Recommending COAs to minimize friendly and civilian vulnerability and assessing probability and impact of NBC-related casualties.
- Providing technical advice and recommendations on mission-oriented protective posture (MOPP), troop-safety criteria, operational exposure guidance, NBC reconnaissance, smoke operations, biological warfare defense measures, and mitigating techniques.
- Planning and initiating, in conjunction with the surgeon, procedures to verify and report enemy first use of NBC agents.
- Assessing probability and impact of NBC-related casualties.
- Coordinating across the entire staff while assessing the impact of enemy NBC-related attacks and hazards on current and future operations.
- Coordinating with the surgeon on health support requirements for NBC operations.
- Conducting NBC IPB vulnerability analysis and recommending IR to the G2 through the G3.
- Planning, supervising, and coordinating NBC decontamination (except patient decontamination) operations.
- Supervising the nuclear and chemical accident and incident response assistance program.
- Assessing weather and terrain data to determine if environmental factors are conducive to enemy employment of weapons of mass destruction (WMD) or, at corps level, to the friendly employment of nuclear weapons.
- Predicting downwind vapor hazard and fallout patterns and their probable effects on operations.
- Predicting fallout from friendly employment of nuclear weapons and disseminating nuclear strike warning messages when required.
- Planning, coordinating, and managing chemical and radiological survey and monitoring operations.
- Processing and distributing NBC attack and contamination data.
- Preparing, managing, and distributing NBC messages.
- Preparing NBC situation reports (SITREPs).
- Planning and executing NBC reconnaissance operations and coordinating them with the overall reconnaissance and surveillance plan.
- Maintaining and reporting radiation exposure and dose status and coordinating with surgeon.
- Participating in targeting meetings.
- Estimating the effect of a unit's radiation exposure state on mission assignments.
- Participating in the nuclear target nomination process (corps only).
- Estimating consumption rates of NBC defense equipment and supplies.

- Operating the NBC warning and reporting system.
- Coordinating with the G4 (S4) on logistics as it relates to chemical defense equipment and supplies, maintaining chemical equipment, and transporting chemical assets.
- Coordinating NBC reconnaissance assets into the reconnaissance and surveillance plan.
- Overseeing construction of NBC shelters.
- Planning and recommending integration of smoke and obscurants into tactical operations.
- Conducting smoke target development.
- Planning and recommending use of flame-field expedients to supplement unit defense and existing minefields and barriers.
- Advising the commander, in conjunction with the surgeon, on possible hazards and effects of low-level hazards, such as low-level radiation and toxic industrial material.
- Advising the commander, in conjunction with the ADCOORD, on passive defense measures to assist in protecting and warning the force against missile attack.
- Advising the commander on using riot control agents.

D-66. **Deception Officer**. The deception officer is responsible for coordinating military deception assets and operations for the command. A deception officer is located at corps and division levels. His specific responsibilities are—

- Exercising staff supervision over deception activities.
- Providing expertise in military deception operations.
- Managing information required for deception planning, preparing, executing, and assessing.
- Determining, with the G2, requirements or opportunities for deception operations.
- Recommending to the IOCOORD the deception target, objective, and deception story.
- Writing the military deception appendix to the IO Annex.
- Coordinating, with OPSEC officer, OPSEC measures to shield the deception plan.
- Coordinating with the higher headquarters military deception officer and G3, ENCOORD, and CHEMO.
- Distributing the deception plan on a need-to-know basis.
- Coordinating with the ACERT for anti-virus software and threat analysis/advisories.
- Coordinating with the RCERT for network intrusion devices, information, approved systems, and software.
- Coordinating with the LIWA for IO vulnerability assessments and red teaming.
- Integrating deception assets.
- Assessing execution of the deception plan.

D-67. **Electronic Warfare Officer.** The EWO is responsible for coordinating electronic warfare assets and operations for the command. An EWO is located at corps and division levels. His specific responsibilities are—

- Integrating EW into IO.
- Coordinating, preparing, and maintaining the EW target list, electronic attack taskings, electronic attack requests, and the EW portion of the sensor/attack matrix.
- Coordinating with the G6 to deconflict frequencies and the joint restricted frequency list with EW targets.
- Coordinating with both the FSCOORD and analysis and control element to identify opportunities for conducting effective electronic attack.
- Participating in the targeting meeting.
- Analyzing adversary EW activities in conjunction with the G2.
- Assessing adversary vulnerabilities, friendly capabilities, and friendly missions in terms of EW.
- Developing a prioritized adversary C2 target list in coordination with the FSE based on HVTs/HPTs.
- Using the adversary C2 target list, developing EA mission tasking, and issuing an electronic attack target list (EATL).
- Coordinating the EATL with organic MI units, adjacent, and higher units, including joint and multinational units when appropriate.
- Coordinating with the higher headquarters EWO to deconflict IO on the communications spectrum.
- Assists the G6/S6 in determining requirements of electronic protection.
- Preparing EW estimates and appendix to the IO annex.
- Deconflicting targets with the Joint Restricted Frequency List (JRFL) when appropriate.
- Forwarding and coordinating ES targets with the G2. The G2 collection managers integrate ES targets into the collection plan and the intelligence synchronization plan.
- Briefing adversary and friendly EW vulnerabilities for each COA.

D-68. **Engineer Coordinator.** The ENCOORD, responsible for coordinating engineer assets and operations, is usually the senior engineer officer in the force. He commands an engineer unit supporting the command. The assistant or deputy ENCOORD is a permanent staff officer representing the ENCOORD in his absence. An ENCOORD is located at corps and division levels and one is normally task-organized to maneuver brigades and battalions. His specific responsibilities are—

- Planning and controlling these engineer battlefield functions: mobility, countermobility (CM), survivability, general and topographic engineering.
- Planning and coordinating with the G3 (FSCOORD)/S3 on integrating obstacles and fires.
- Advises the commander on the use of organic and nonorganic engineer assets.
- Advising the commander on employing and reducing obstacles.

- Advising the commander on environmental issues, coordinating with other staff officers to determine the impact of operations on the environment, and helping the commander integrate environmental considerations into the decision making process.
- Providing a terrain-visualization mission folder to determine its effect on friendly and enemy operations.
- Managing the digital terrain data storage device (coordinates with the G2 for planning and distribution).
- Produces maps and terrain products (coordinates with the G2 for planning and distribution).
- Planning and supervising construction, maintenance, and repair of camps and facilities for friendly forces, EPWs, and civilian internees.
- Planning and coordinating with the FSCOORD using the family of scatterable mines (SCATMINE).
- Planning and coordinating environmental protection, critical areas, and protection levels.
- Preparing the engineer battlefield assessment (EBA) in assisting the G2 (S2) in IPB preparation.
- Participating in the targeting meeting.
- Provides information on the status of engineer assets on hand.
- Recommending to the G4 MSRs and logistics areas based on technical information.
- Planning the reorganization of engineers to fight as infantry combat units when the commander deems their emergency employment necessary.
- Coordinating with interagency department engineers, such as the FBI engineer.
- Advising the commander on issues, planning and coordinating fire protection and prevention with the G3 (S3) and G4 (S4).

D-69. **Explosive Ordnance Disposal Officer.** The EOD officer is responsible for coordinating the detection, identification, recovery, evaluation, render safe, and final disposal of explosive ordnance. An EOD officer is authorized at corps and division levels. He normally serves as the EOD group, battalion, or company commander. The EOD officer's specific responsibilities are—

- Establishing and operating an EOD incident reporting system.
- Establishing, operating, and supervising technical intelligence reporting procedures.
- Coordinating requirements for EOD support with requesting units, other Army commands, sister services, federal agencies, and multinational or coalition partners. This coordination may include arranging for administrative and logistic support for subordinate EOD units, as required.
- Monitoring the supply status of and expediting requests for special EOD tools, equipment, and demolition materials.

(AR 75-15 discusses the duties and responsibilities of the EOD officer.)

D-70. **Fire Support Coordinator.** The FSCOORD is responsible for advising the commander on the best use of available fire support resources, developing the fire support plan, issuing necessary orders in the name of the commander, and implementing the approved fire support plan. At maneuver brigade through corps, the FSCOORD is also the commander of the field artillery unit supporting the force. A deputy FSCOORD or fire support officer (FSO) assists him on the combined arms staff at these levels. At battalion and below, the respective FSO serves as the FSCOORD for his maneuver commander. The FSCOORD's specific responsibilities are (note - * indicates those responsibilities also applicable to battalion and company FSOs)—

- Developing, with the commander and G3 (S3), a concept of fires to support the operation.*
- Planning and coordinating essential fire support tasks.*
- Interpreting the commander's desired effects on enemy targets/formations/capabilities accurately in automated fire support systems.
- Integrating nonlethal fires*, including offensive IO and electronic attack, into the concept of fires and concept of operations, from input by the IOCOORD at targeting meetings.
- Coordinating positioning of fire support assets.*
- Participating in targeting meetings and developing applicable targeting products.
- Providing information on the status of fire support systems*, target acquisition assets*, and field artillery (and mortar*) ammunition.
- Coordinating and planning with the ENCOORD for SCATMINE use.
- Coordinating and synchronizing joint fire support.*
- Managing ammunition requirements, resupply and reallocation.
- Recommending FSCM to support current and future operations.* Managing FSCM changes.
- Recommending and implementing the commander's counterfire (to include radar zones) and other target engagement priorities.*
- Coordinating, as necessary, nonstandard sensor-to-shooter linkages to attack targets with short dwell times.
- Coordinating field artillery survey and meteorological support within the command.
- Performing nuclear target analysis at corps and above.

D-71. **Historian.** The historian is responsible for coordinating the documentation of the historical activities of the command. The historian, normally a DA civilian, is at corps and division levels. The historian's specific responsibilities are—
- Preparing the unit's history.
- Supervising the command's historical activities.
- Injecting historical perspective and institutional memory into unit activities.
- Collecting and maintaining records such as staff journals, plans and orders, and after-action reports.

- Preparing special studies or reports based on assembled historical material.
- Maintaining a command historical research collection adequate to support the historical mission.

D-72. **Information Operations Coordinator (IOCOORD)**. The IOCOORD, an FA 30 officer, is responsible for IO matters and is located at division and corps. He reports to the G3 on the status of IO and accomplishes the IO actions in FM 3-13.

- Ensures IO supports the accomplishment of information superiority.
- Exercise special staff coordination of planning, preparing, assessing and execution of IO.
- Synchronizes and coordinates offensive and defensive IO.
- Assesses impact of offensive IO and defensive IO.
- Integrates intelligence from the G2 into IO planning.
- Recommends priorities to accomplish IO tasks from the MDMP.
- Coordinates and synchronizes IO with IO at the theater strategic and operational levels.
- Coordinates IO activities for G3.
- Participates in targeting meetings. Recommends IO effects to influence adversary perceptions, decisions, and actions.
- Coordinate preparation of the IO portions of operation orders (OPORDs) and operation plans (OPLANs).
- Produces other IO products for the G3.
- Leverages the capabilities of higher echelon IO agencies and units providing connectivity with national- and theater-level IO agencies and monitoring the execution of the elements of IO to ensure the delivery of massed information effects when needed.
- Coordinates the attachment of the LIWA Field Support Team and other specialized IO teams.
- As authorized by G3, coordinates IO directly with the following special staff officers:
    - Deception officer.
    - EWO.
    - OPSEC officer.
    - PYSOP officer.

D-73. **Liaison Officer**. The LNO is responsible for representing the commander at the headquarters of another unit for coordinating and promoting cooperation between the two units. (Appendix E discusses the duties and responsibilities of the LNO.)

D-74. **Marine Liaison Team Commander.** The MLT is responsible for coordinating naval gunfire (NGF) or Marine CAS assets and operations. The MLT commander, a naval (Navy or Marine) officer, operates at division level and below. The MLT commander—

- Processes requests for naval air gunfire.

- Operates the NGF ground support net.
- Provides support teams to maneuver elements when Navy ships have a direct support (DS) mission.
- Helps the company FSO adjust NGF in the absence of a spotter.
- Provides control and liaison associated with the ground elements of a landing force in controlling and employing NGF and Navy and Marine CAS in the amphibious assault, or in other types of operations.
- Advises on the capabilities, limitations, and employment of NGF and Navy or Marine air support.
- Participates in targeting meetings.

D-75. **Operations Security Officer**. The OPSEC Officer may be assigned as an additional duty. Specific duties are—

- Conducting OPSEC surveys to analyze the OPSEC posture of the command.
- Coordinating with higher headquarters to support its OPSEC activities.
- Determining EEFI and OPSEC vulnerabilities and submitting the units' EEFI to the commander for approval.
- Weighing the risks to the mission against the cost of protection.
- Publishing the OPSEC appendix of the IO annex to the OPORD.
- Coordinating with other IO members of the cell to ensure coverage and dissemination.
- Submitting tasking to G3 to specify OPSEC tasks to subordinate units.
- Determining the impact of compromises of critical friendly systems, functions, and data.
- Coordinating with LIWA for IO vulnerability assessments and red teaming.
- Evaluating effectiveness of force-protection measures with the G3, ENCOORD, and the CHEMO.
- Reporting incidents through channels to regional computer emergency team (RCERT) and Army computer emergency response team (ACERT).

D-76. **Provost Marshal.** The PM is responsible for planning, coordinating, and employing all organic, assigned or attached military police (MP) support assets, and operations. The PM is usually the senior MP officer in the command. The PM augments the staff with a small planning cell that typically works within the G3. A PM is located at corps and division levels. His specific responsibilities are—

- Maneuver and mobility support operations, to include route reconnaissance, surveillance, circulation control, dislocated civilian and straggler control, information dissemination, and tactical and criminal intelligence collecting and reporting.
- Components of area security operations, to include activities associated with force protection, zone and area reconnaissance, CP access control, physical security of critical assets, nodes, and sensitive materials, counterreconnaissance, and security of designated key personnel.

- Internment and resettlement operations, to include collection, detention and internment, protection, sustainment, and evacuation of EPW and civilian internees, dislocated civilians, and US military prisoners.
- Law and order operations, to include law enforcement, criminal investigations, and counterterrorism and antiterrorism activities.
- Police intelligence operations, to include activities relative to the collection, integration, and dissemination of police information and intelligence.
- Coordinating customs and counterdrug activities.
- Providing physical security guidance for commanders, assistance in area damage control, and NBC detection and reporting.
- Performing liaison with local civilian law enforcement authorities.
- Assisting the G1 in administering discipline and law and order, including AWOL; desertion; court-martial offenses; requests for transfer of internees, detainees, and prisoners; rewards and punishments; and disposition of stragglers.
- Providing AWOL and desertion statistical data to the G1 through the G3.
- Coordinating with the G4 for all logistic requirements relative to EPW and civilian internees, US military prisoners, and dislocated civilians.
- Coordinating with the finance officer and RM on pay support for EPWs and civilian internees, and on financial aspects of weapons bounty programs.

D-77. **Psychological Operations Officer.** The PSYOP officer is responsible for coordinating PSYOP assets and operations in the command with all elements of IO. He also coordinates with a higher headquarters PSYOP representative. The PSYOP officer writes the PSYOP appendix to the IO annex. A PSYOP officer is located at corps and division levels. If no PSYOP officer is assigned to the command, the PSYOP support element commander of an attached PSYOP support element may assume the duties and responsibilities of the PSYOP special staff officer. The PSYOP officer's specific responsibilities are—

- Exercising staff planning and coordination of PSYOP activities.
- Developing and conducting PSYOP supporting the operation.
- Allocating organic and supporting resources to support PSYOP efforts.
- Prioritizing the efforts of attached PSYOP forces.
- Evaluating, with the G2 and G5, enemy PSYOP efforts and the effectiveness of friendly PSYOP on target groups.
- Coordinating with the G5 (S5) for the impact of PSYOP.
- Coordinating audience pretesting and post testing for propaganda and counterpropaganda products.
- Coordinating with the G5 (S5) for planning and assistance with executing dislocated civilian operations.
- Assessing the effectiveness of the PSYOP.
- Assessing the psychological impact of military operations on the enemy and the civilian populace.

- Countering enemy propaganda and misinformation.
- Coordinating with the PAO and G5 to ensure disseminated messages are consistent.
- Coordinating with other agencies (USIA, USAID, and US Ambassador)

D-78. **Safety Officer.** The safety officer is responsible for coordinating safety activities throughout the command. A safety officer is located at every echelon of command from battalion to corps. An aviation safety officer is located at corps and aviation unit level (regiment/brigade/group, battalion/squadron, company/troop, detachments and comparable-size activities). The safety officer's specific responsibilities are—

- Command safety and occupational health program.
- Accident prevention program.
- Coordinating with the IG and PM on unsafe trends collected during inspections.
- Providing input to the G1 on projected accidental losses.
- Providing safety training to the local civilian labor force.
- Preparing risk assessments and recommending appropriate risk-reduction control measures for all operations.

D-79. **Special Operations Coordinator**. The SOCOORD is responsible for coordinating and integrating SOF assets and activities. A SOCOORD is normally located only on the corps staff. However, whenever a special operations unit is attached or under OPCON of the force, someone from the staff or the attached unit performs the duties of a SOCOORD. Below the corps echelon, a unit normally receives a special operations LNO team to perform SOCOORD duties. The SOCOORD's responsibilities are—

- Providing coordination between the corps and the special operations command and control element (SOCCE) that may be located with the unit's main CP.
- Coordinating specific requirements for and conducting liaison with the theater's special operations command (SOC), Army special operations task force (ARSOTF), and the joint special operations task force (JSOTF).
- Coordinating with the conventional force's long-range surveillance units to deconflict operations.
- Coordinating SF, ranger, and special operations aviation support requirements with other staff sections.
- Planning and coordinating linkup between the corps and ARSOF.
- Providing staff expertise to other staff sections on SF, ranger, and special operations aviation employment, doctrine, tactics, techniques, and procedures.

D-80. **Space Operations Officer.** The SOO is responsible for providing space-related tactical support and coordination of the space-based capabilities available to the command. A SOO is now located at the corps and in the future at both corps and division. If the command has no SOO assigned, an Army space support team (ARSST) is often OPCON to the command, and the team OIC assumes the duties and responsibilities of the SOO. The SOO's specific responsibilities are—

- Advising the commander on the capabilities, limitations, and use of theater, strategic, national, and commercial space assets.
- Calculating, analyzing and disseminating GPS satellite coverage and accuracy data.
- Facilitating the dynamic retasking of space-based assets to support current and future operations.
- Acquiring both DOD and commercial satellite terrain and weather imagery (classified and unclassified) to enhance mapping, mission analysis, and other actions requiring near real-time imagery from denied areas.
- Providing input to the G2 on capabilities and vulnerabilities of threat and commercial space systems.
- Providing estimates on the impact of space weather activities on current and future operations.
- Coordinating with the G3 (FSCOORD) in nominating threat or foreign ground stations for targeting.
- Coordinating the activities of ARSST supporting the command.

D-81. **Theater Airlift Liaison Officer**. The TALO is responsible for advising the commander on the best use of airlift resources and coordinating the use of airlift resources. The TALO is a rated Air Force officer. TALOs are normally located at corps, division, regiment, and separate brigades. The TALO's specific responsibilities are—

- Advising the ground commander on the capabilities, limitations, and utilization of AF fixed-wing theater- and strategic-airlift assets.
- Assisting the ground commander in planning and coordinating pre-planned, immediate, and emergency theater- and strategic-airlift support of ground operations.
- Operating and maintaining airlift advance notification or coordination net.
- Transmitting advance notification of impending immediate airlift requirements.

G4 (S4)

D-82. The following special staff officer is the coordinating staff responsibility of the ACofS, G4 (S4).

D-83. **Transportation Officer.** The transportation officer is responsible for coordinating the transportation assets and operations in the command. There is a transportation officer at corps (CTO) and division (DTO) levels. His specific responsibilities are—

- Administrative movement, including onward movement from port of debarkation (POD), CSS movements, and other movement as directed by the G3 (S3).
- Movement scheduling and regulation of MSRs.
- Mode operations (truck, rail, air, and water).
- Movement of materiel and personnel.
- Monitoring movements on routes two echelons down.

PERSONAL STAFF OFFICERS

D-84. Personal staff officers work under the immediate control of the commander and have direct access to him. The commander establishes guidelines or gives specific guidance when the personal staff officer should inform, or coordinate with, the CofS or other members of the staff on issues.

D-85. Most personal staff officers also perform duties as special staff officers working with a coordinating staff officer. They do this case-by-case, depending on the guidance of the commander or the nature of the task. Personal staff officers also may work under the supervision of the CofS/XO.

D-86. By law or regulation, personal staff members have a unique relationship with the commander. Although there are other members in the commander's personal staff, this section discusses only staff officers, with the exception of the command sergeant major (CSM). The personal staff officers discussed in this section are the—

- CSM.
- Aide-de-camp.
- Chaplain.
- IG.
- PAO.
- SJA.

Command Sergeant Major (No Coordinating Staff Responsibility)

D-87. The CSM is a member of the commander's personal staff by virtue of his being the senior noncommissioned officer (NCO) of the command. The CSM is responsible for providing the commander with personal, professional, and technical advice on enlisted soldier matters and the NCO corps as a whole. A CSM is located at every echelon of command from battalion through corps. The CSM's duties and responsibilities vary according to the commander's desires, but his normal duties are—

- Providing advice and recommendations to the commander and staff in matters pertaining to enlisted personnel.
- Executing established policies and standards concerning enlisted soldiers' performance, training, appearance, and conduct.
- Maintaining communications with subordinate unit NCOs and other enlisted soldiers through NCO channels.
- Monitoring unit and enlisted personnel training and making corrections as necessary.
- Administering and monitoring the unit NCO development program (NCODP) and sergeant's time training (STT).
- Providing counsel and guidance to NCOs and other enlisted soldiers.
- Developing the unit METL with the commander.
- Administering and chairing unit selection and soldier boards for enlisted personnel.
- Performing other duties the commander prescribes, including receiving and orienting newly assigned enlisted personnel and helping inspect command activities and facilities.

- Monitoring and recommending actions on the morale and discipline of the unit.
- Coordinating unit security operations, to include fighting positions and local security.

Aide-De-Camp (No Coordinating Staff Responsibility)

D-88. The aide-de-camp serves as a personal assistant to a general officer. An aide-de-camp is authorized for general officers in designated positions. The rank of the aide-de-camp depends on the rank of the general officer. An aide-de-camp's specific responsibilities are—

- Providing for the general officer's personal well-being and security, and relieving him of routine and time-consuming duties.
- Preparing and organizing schedules, activities, and calendars.
- Preparing and executing trip itineraries.
- Meeting and hosting the general officer's visitors at his headquarters or quarters.
- Coordinating protocol activities.
- Acting as an executive assistant.
- Supervising other personal staff members (secretaries, assistant aides, enlisted aides, and drivers).
- Performing varied duties, according to the general officer's desires.

Chaplain (No Coordinating Staff Responsibility)

D-89. The chaplain is responsible for religious support operations within the command. He advises the commander on matters of religion, morals and morale as affected by religion, and advises him on the impact of indigenous religions on military operations. A Unit Ministry Team consisting of one chaplain and one chaplain assistant is located at every echelon of command from battalion through corps, with specific responsibilities for–

- Advising the commander on the issues of religion, morals, and morale as affected by religion, including the religious needs of all assigned personnel.
- Providing the commander with pastoral care, personal counseling, advice, and privileged communication.
- Developing and implementing the commander's religious support program.
- Exercising staff supervision and technical control over religious support throughout the command.
- Providing moral and spiritual leadership to the command and community.
- Coordinating religious support with unit ministry teams of higher and adjacent headquarters, other services, and multinational forces.
- Translating operational plans into battlefield ministry priorities for religious support.
- Helping the commander ensure that all soldiers have the opportunity to exercise their religion.

- Advising the commander and staff, with the G5 (S5), of the impact of the faith and practices of indigenous religious groups in an AO.
- Performing or providing religious rites, sacraments, ordinances, services, and pastoral care and counseling to nurture the living, care for casualties, and honor the dead.
- Providing religious support to the command and community to include confined or hospitalized personnel, EPWs, civilian detainees, and refugees.
- Providing liaison to indigenous religious leaders in close coordination with the G5 (S5).
- Training, equipping, and supporting the subordinate chaplain and the chaplain assistant.

Inspector General (Coordinating Staff Responsibility, ACofS, G1/AG (S1), when required)

D-90. The IG is responsible for advising the commander on the overall welfare and state of discipline of the command. The IG is a confidential adviser to the commander. An IG is located with general officers in command and with selected installation commanders. The IG's specific responsibilities are—

- Integrating the commander's organizational inspection program.
- Conducting inspections, surveys, and studies as the commander requires and monitoring corrective actions.
- Receiving allegations and conducting investigations and inquiries.
- Monitoring and informing the commander of trends, both positive and negative, in all activities.
- Consulting with staff sections, as appropriate, to obtain items for the special attention of inspectors and to arrange for technical assistance.
- Providing the commander with a continuous, objective, and impartial assessment of the command's operational and administrative effectiveness.
- Assisting soldiers, DA civilians, family members, retirees, and other members of the force who seek help with Army-related problems.
- Identifying and helping solve systemic issues.

(AR 20-1 discusses the duties and responsibilities of the IG.)

Public Affairs Officer (Coordinating Staff Responsibility, ACofS, G1/AG (S1), when required)

D-91. The PAO is responsible for understanding and fulfilling the information needs of soldiers, the Army community, and the public. A PAO is located at corps, division, and major support command levels. The PAO's specific responsibilities are—

- Planning and supervising a command public affairs program.
- Advising and informing the commander of the public affairs impact and implications of planned or implemented operations.
- Serving as the command's spokesman for all communication with external media.

- Assessing the information requirements and expectations of the Army and the public, monitoring media and public opinion, and evaluating the effectiveness of public affairs plans and operations.
- Facilitating media efforts to cover operations by expediting the flow of complete, accurate, and timely information.
- Coordinating logistic and administrative support of civilian journalists under administrative control of the unit.
- Conducting liaison with media representatives to provide accreditation, mess, billet, transport, and escort as authorized and appropriate.
- Developing and educating the command on policies and procedures for protecting against the release of information detrimental to the mission, national security, and personal privacy.
- Informing soldiers, family members, and DOD civilians of their rights under the *Privacy Act*, their responsibilities for OPSEC, and their roles as implied representatives of the command when interacting with news media.
- Coordinating with the G3 (PSYOP) and G5 to ensure disseminated information is not contradictory.
- Assessing and recommending news, entertainment, and information needs of soldiers and home station audiences.
- Working closely with the G5 (S5) and other agencies to integrate strategy and unify efforts to communicate the Army's perspective and to support the mission's tactical and operational objectives.
- Advising the commander and staff on *Privacy Act* and *Freedom of Information Act* matters.

(AR 360-1 discusses the duties and responsibilities of the PAO.)

Staff Judge Advocate (Coordinating Staff Responsibility, ACofS, G1/AG [S1], when required)

D-92. The SJA is the commander's personal legal adviser on all matters affecting the morale, good order, and discipline of the command. He serves any commander exercising General Court-Martial Convening Authority (GCMCA). Additionally, he serves under the supervision of the Chief of Staff to provide legal services to the staff and, through other staff members, responsive legal services throughout the organization. A legal support element—including at least a judge advocate—deploys in direct support of each brigade-level task force. The SJA provides complete legal support, including operational law (OPLAW) support and coverage of six core legal disciplines - international law, military justice, administrative law, civil law (including contract, fiscal, and environmental law), claims, and legal assistance. His specific responsibilities are—

- Providing military justice advice and performing military justice duties prescribed in the Uniform Code of Military Justice.
- Resolving legal problems regarding administrative boards, investigations, or other military tribunals.
- Technical supervision and training of legal personnel in the command and its subordinate units.

- Providing legal advice and assistance concerning contracts, health care, environmental matters, and compensation matters.
- Providing legal counsel to the civilian personnel office, equal employment opportunity office, and the command.
- Providing counsel to the family advocacy Case Review Committee.
- Serving as the command ethics counselor.
- Providing international and operational law assistance, to include advice and assistance to implement the DOD Law of War Program. This includes assistance in the drafting and review of Rules of Engagement (ROE).
- Assisting with litigation in which the United States has an interest.
- Operating the command's legal assistance, claims, procurement fraud, federal magistrate court, victim-witness assistance, and military justice training programs.
- Assisting in implementing training programs for reserve component legal personnel and units.
- Providing legal advice concerning intelligence activities.
- Serving in targeting meetings to advise on legal considerations in targeting to minimize unnecessary collateral damage or injury to the civilian population.

(AR 27-1 and FM 27-100 discuss the duties of the SJA.)

Appendix E

Liaison

Liaison is the contact or intercommunication maintained between elements of military forces and other agencies to ensure mutual understanding and unity of purpose and action (JP 3-08). Liaison helps reduce the fog of war through direct communications.

It is the most commonly employed technique for establishing and maintaining close, continuous physical communication between commands. The commander uses liaison during operations and normal daily activity between units to help facilitate communication, preserve freedom of action, and maintain flexibility. Liaison ensures that senior commanders remain aware of the tactical situation by providing them with relevant information and clarification of operational questions.

Liaison activities augment the commander's ability to synchronize and focus combat power. They include establishing and maintaining physical contact and communication between elements of military forces and, as directed, nonmilitary agencies. Liaison activities ensure—

- Cooperation and understanding between commanders and staffs of different headquarters.
- Coordination on tactical matters to achieve unity of effort.
- Understanding of implied or inferred coordination measures to achieve synchronized results.

Overall, liaison becomes another tool to help commanders overcome friction, gain assurance that subordinate commanders understand implicit coordination, and achieve synchronized results. Effective liaison enhances the commander's confidence in planning and executing missions.

LIAISON ELEMENTS

E-1. Liaison elements include—

- The liaison officer (LNO) who represents the commander or a special functional area. The task and its complexity, above all, determine the qualifications. However, as the level of the headquarters rises, so does its complexity, often generating a corresponding increase in rank of the LNO.
- Liaison detachments composed of several teams with expertise in specialized areas, such as intelligence, operations, and combat service support (CSS).
- Liaison teams composed of LNOs, a liaison noncommissioned officer in charge (NCOIC), clerical personnel and drivers, and communications personnel with their equipment.
- Couriers (messengers) responsible for the secure physical transmission and delivery of documents and material.

See Figure E-1 for representative ranks of LNOs. The expected task and its complexity, more than the level of the receiving HQ, will govern the actual rank.

Liaison Qualifications	
	Recommended (1 officer)
Corps	*Major*
Division	*Captain*
Brigade, regiment, or group	*Captain*
Battalion	*First Lieutenant*

Figure E-1. Rank Composition of Senior Liaison Team Personnel from the Sending (Dispatching) Unit to the Receiving Unit

THE LIAISON OFFICER

E-2. The commander uses an LNO to transmit critical information while bypassing layers of staffs and headquarters. A trained, competent, trusted, and informed LNO (either commissioned or NCO) is the key to effective liaison.

The LNO must have the proper rank and experience for the mission and have the commander's full confidence. Using one officer conserves manpower while guaranteeing the consistent, accurate flow of information. However, continuous operations require a liaison team.

E-3. The LNO, normally is a special staff officer, is the personal representative of the commander and has access to him consistent with his duties. However, for routine matters, he works for and receives direction from the CofS (XO).

E-4. The LNO's parent unit is the sending unit; the unit he visits or attaches to is the receiving unit. An LNO normally remains at the receiving headquarters until recalled to the sending unit. Because the LNO represents his commander, he must be able to—

- Understand how his commander thinks and interpret his messages.
- Convey his commander's vision, mission, and concept of operations and guidance.
- Represent his commander's position.

E-5. The LNO's professional capabilities and personal characteristics must encourage confidence and cooperation with the commander and staff of the receiving unit. He must—

- Be thoroughly knowledgeable of the sending unit's mission; tactics, techniques, and procedures (TTP); organization; capabilities; and communications equipment.
- Appreciate and understand the receiving unit's procedures, organization, capabilities, mission, doctrine, staff procedures, and customs.
- Be familiar with the requirements for and the purpose of liaison; the liaison system and its corresponding reports, reporting documents, and records; and the training of the liaison team.
- Observe the established channels of command and staff functions.
- Be of sufficient rank to represent his commander effectively with the receiving unit's commander and staff.
- Be trained in his functional area.
- Be tactful.
- Possess any necessary language expertise.

LIAISON PRINCIPLES

E-6. When possible, liaison should be reciprocal between higher, lower, supporting, supported, and adjacent formations. It *must* be reciprocal when US forces are placed under the command and control of a headquarters of a different nationality and vice versa, or when brigade-size and larger formations of different nationalities are adjacent. When liaison is *not* reciprocal, the following principles apply:

- Higher-echelon units establish liaison with lower echelons.
- Units on the left establish liaison with units on their right.
- Supporting units establish liaison with units they support.
- Units of the same echelon and units in the rear establish liaison with those to their front.

- Units not in contact with the enemy establish liaison with units that are in contact with the enemy.
- When conducting a forward or rearward passage of lines, the moving unit establishes liaison with the stationary unit.
- The incoming force establishes liaison with the outgoing force during a relief of combat troops.

E-7. If liaison is broken, both parties must attempt to reestablish it. However, the primary responsibility rests with the headquarters originally responsible for establishing liaison.

LIAISON RESPONSIBILITIES

E-8. Both the sending and receiving units have liaison responsibilities that occur before, during, and after operations.

SENDING UNIT

E-9. The sending unit's most important tasks include selecting and training the right officers for liaison. The sending unit must ensure the LNO meets all liaison characteristics and requirements and—

- Is tactically and technically competent, skilled, and mature.
- Is familiar with the doctrine and staff procedures of the receiving headquarters.
- Understands the current and future operations of the sending head-quarters and its commander's mission, intent, and concept of operations.
- Understands what information his commander wants the receiving commander to know.

E-10. The sending unit must provide a description of the liaison party (number and type of vehicles, personnel, call signs, and radio frequencies) to the receiving unit. The LNO or team must also—

- Have identification and appropriate credentials for the receiving unit.
- Have appropriate security clearance, courier orders, transportation, and communications equipment.
- Have SOP outlining the missions, functions, procedures, and duties of the sending unit's liaison section.
- Have weapons and ammunition for personal protection.
- Have rations for the transit from the sending unit to the receiving unit.

RECEIVING UNIT

E-11. The receiving unit is responsible for—

- Providing the sending unit with the LNO's reporting time, place, point of contact, recognition signal, and password.
- Providing details of any tactical movement and logistics information relevant to the LNO's mission, especially while he is in transit.
- Ensuring that the LNO has access to the commander, the CofS (XO), and other officers for important matters.

- Giving the LNO an initial briefing and allowing him appropriate access so he remains informed of current operations.
- Providing protection for the LNO while he is at the receiving unit.
- Publishing SOP outlining the missions, functions, procedures, and duties of the LNO or team at the receiving unit.
- Providing access to communications equipment (and operating instructions, as needed) when the LNO communicates on the receiving unit's equipment.
- Providing administrative and logistic support.

LIAISON DUTIES DURING THE TOUR

E-12. LNOs also inform the receiving unit's commander or staff of the sending unit's needs or requirements. The LNO's ability to rapidly clarify questions about the sending unit can keep the receiving unit from wasting time while planning a course of action (COA) that best supports the senior commander's intentions. During the liaison tour, the LNO or team—

- Arrives at the designated location at the designated time.
- Promotes cooperation between the sending and receiving headquarters.

- Accomplishes its mission without becoming actively involved in the receiving unit's staff procedures or actions; however, it may assist higher staffs in war gaming.
- Uses communications in accordance with the receiving unit's procedures.
- Accomplishes its mission without interfering with the operations of the receiving headquarters. The liaison team must be proactive in obtaining information.
- Facilitates comprehension of the sending unit commander's intent.
- Helps the sending unit's commander assess current and future operations.
- Remains informed of the sending unit's current situation and makes that information available to the receiving unit's commander and staff.
- Expeditiously informs the sending unit of upcoming missions, tasks, and orders of the receiving unit.
- Ensures that a copy of the receiving unit's SOP is available at the sending unit.
- Informs the receiving unit's commander or CofS (XO) of the content of the reports it transmits to the sending unit.
- Keeps a record of its reports, listing everyone met (including each person's name, rank, duty position, and phone number) as well as primary operators and their phone numbers.
- Attempts to resolve issues proactively within the receiving headquarters before involving the sending unit.
- Notifies the sending unit promptly if unable to accomplish the liaison mission.
- Reports its departure to the receiving unit's commander after completing the mission.

- Reports future operations to the sending unit so that it can begin preliminary planning for anticipated future events or activities.

LIAISON DUTIES AFTER THE TOUR

E-13. After returning to the sending unit, the liaison team promptly transmits the receiving unit's requests to the sending unit's commander or staff, as appropriate. The team also briefs the CofS (XO) on mission-related liaison activities and prepares a written report, as appropriate.

E-14. Accuracy is paramount. The team must provide clear, concise, complete information. If accuracy is not certain, it should quote the source. The liaison team should limit its remarks to mission-related observations. For convenience, a liaison team checklist and an example outline of a LNO's handbook appear at the end of this appendix.

LIAISON IN SPECIFIC OPERATIONS

E-15. Liaison has unique responsibilities for specific operations, including deployment, joint, multinational, and interagency operations.

DEPLOYMENT OPERATIONS

E-16. Deployment operations create an increased need for liaison. The unfamiliarity of the area of operations (AO) requires extensive research for staff estimates. Some operations require tight security, which restricts access or dissemination and affects the time line. New C2 relationships and task organized units may result in slower staff coordination and actions due to unfamiliarity with SOP and unit equipment and soldiers. These conditions can cause poor situational understanding for the commander, resulting in conflicting guidance, frequent planning changes, and inefficient execution of deployment tasks. In this situation, liaison is the key. During deployment, the LNO becomes a critical conduit for information.

E-17. The LNO must always understand his commander's information needs. Deployment information might include--

- The type of transportation the unit needs for deployment and resupply.
- The communications systems and intelligence products available.
- The level and extent of protection the unit needs as it arrives, disembarks, and prepares for combat operations.
- Staging area requirements.
- The CSS the Army component of a joint force must provide to other service components in the AO.
- Local tactical intelligence products otherwise unavailable to the commander.
- Unit movement officer responsibilities.

JOINT OPERATIONS

E-18. During joint operations, interoperable communications systems among services are rare. Current joint communications systems do not meet all operational requirements. Therefore, Army liaison teams must have communications systems that can rapidly exchange information between commands to

ensure the actions of Army forces and forces of other services are coordinated and synchronized, and that they support the joint force commander's plan.

MULTINATIONAL OPERATIONS

E-19. Mutual confidence is the key to making multinational operations successful. Liaison activities require explicit coordination of doctrine and techniques, greater patience and tact during personal interaction, and thorough understanding of the strategic, operational, and tactical aims supporting the international effort. When operating as a multinational force, US Army units must cooperate with military forces and civilian agencies of other nations. Cultural differences and sensitivities require special communications and liaison arrangements to ensure explicit understanding throughout the alliance or coalition. (See FM 3-16 for a discussion of liaison in multinational operations.)

INTERAGENCY OPERATIONS

E-20. Liaison teams may also represent their commanders when the command is conducting operations in an interagency environment. This is true in war and when conducting stability operations and support operations. Frequently, Army forces conduct peacetime operations under the leadership and control of civilian government agencies. For example, the Federal Emergency Management Agency (FEMA) has overall charge of federal disaster relief within the United States and its territories and possessions. Unlike operations Army forces normally conduct, interagency operations may lack unity of command. All government agencies may be working toward a common goal but not under a single authority.

E-21. There may also be compelling reasons to coordinate with nongovernmental organizations (NGOs). No overarching interagency doctrine delineates or dictates the relationships and procedures governing all agencies, departments, and organizations in interagency operations. Liaison elements must work toward establishing mutual trust and confidence, continuously coordinating actions to achieve cooperation and unity of effort (see also JP 3-08).

LIAISON CHECKLIST

BEFORE DEPARTING THE SENDING UNIT

- Understand what the commander wants the receiving commander to know.
- Arrange for a briefing from operations, intelligence, and other staff elements on current and future operations.
- Verify the receipt of and understand the tasks your staff has given you.

- Obtain the correct maps, traces, and overlays.
- Arrange for transport, communications and cryptographic equipment, codes, signal instructions, and the challenge and password, including their protection and security. Arrange for replacement of these items, as necessary.
- Arrange for the liaison party's departure.

- Complete route-reconnaissance and time-management plans so you arrive at the designated location on time.
- Ensure that liaison personnel and interpreters have security clearances and access appropriate for the mission.
- Verify that the receiving unit received the liaison team's security clearances and will grant access to the appropriate level of information the mission requires.
- Verify courier orders.
- Know how you are to destroy the information you are carrying in an emergency in transit, and at the receiving unit.
- Inform your headquarters of when you will leave, what route you will take, when you are to arrive and, when known, the estimated time and route of your return.
- Pick up all correspondence designated for the receiving headquarters.
- Conduct a radio check.
- Know the impending moves of your headquarters and of the receiving headquarters.
- Bring automation or computers to support your operation.
- Pack adequate supplies of Class I and III for use in transit.

DURING THE LIAISON TOUR

- Arrive at least 2 hours before any scheduled briefings
- Check in with security and complete any required documentation.
- Present your credentials to the CofS (XO).
- Arrange for an "office call" with the commander.
- Meet the coordinating and special staff officers.
- Notify your own headquarters of your arrival.
- Deliver all correspondence designated for the receiving headquarters.
- Visit staff elements, brief them on the situation of your unit, and collect information from them.
- Annotate on all overlays the security classification, title, map scale, grid intersection points, date-time group (DTG) information, DTG received, and from whom received.
- Pick up all correspondence for your headquarters when you leave the receiving unit.
- Inform the receiving headquarters of when you will depart, what route you will take, and when you expect to arrive at the sending unit.

AFTER RETURNING TO THE SENDING UNIT

- Deliver all correspondence.
- Brief the CofS (XO) and the appropriate staff elements.
- Prepare the necessary reports.
- Clearly state what you did and did not learn from the mission.

EXAMPLE OUTLINE OF A LIAISON OFFICER'S HANDBOOK

- Table of contents, with the sending unit's proponency statement.
- Purpose statement.
- Introduction statement.
- Definitions.
- Scope statement.
- Responsibilities and guidelines for conduct.
- Actions before departing from the sending unit.
- Actions on arriving at the receiving unit.
- Actions during liaison operations at the receiving unit.
- Actions before departing from the receiving unit.
- Actions when arriving at the sending unit.
- Sample questions. The following is a list of common questions that the receiving commander may ask a liaison officer or that the liaison officer should consider to represent his commander.
  - Does the sending unit have a copy of the receiving unit's latest OPLAN, OPORD, and FRAGO?
  - Do the receiving unit's plans support the plan of the higher headquarters? This includes logistics as well as the tactical concept. Are main supply routes and required supply rates known? Can the controlled supply rate's feasibility support the receiving unit's plan?
  - What are the commander's critical information requirements (CCIR)? At what time, phase, or event do you expect them to change? Are there any items the CCIR do not contain which the sending unit can help you with?
  - Which sending commander decisions are critical to the receiving commander's execution of his plan? What are the no-later-than times for those decisions?
  - What assets does the unit need to accomplish its mission that it currently does not have? How would they be used? How do they support attaining the more senior commander's intent? Where can the unit get them? Higher headquarters? Other services? Allies?
  - How are aviation assets (rotary and fixed-wing) being used? Do you know all the ways you can talk to the sending unit? Are there telephones, radios, facsimile machines, computers, and so on? Where are they located? Which ones are secure?
  - What terrain has been designated as decisive? Key?
  - What weather conditions would have a major impact on the operation?
  - What effect would a chemical environment have on the operation?
  - What effect would large numbers of refugees or enemy prisoners of war have on the receiving unit's operations?
  - What is the worse thing that could happen during execution of the current operation (plan)?

- How would you handle a passage of lines by other units through your own force?
- What conditions would cause your unit to request OPCON of a multinational force?
- If your unit were placed under OPCON of a larger multinational force, or given OPCON of a smaller such force, what special problems would it present?
- If going to a multinational force headquarters, how do its tactical principles and command concepts differ?
- What host nation support is available to the sending unit?
- Information requirements.
- Required reports (from higher and sending units' SOP).
- Packing list (administrative supplies and unit SOP, field uniform, equipment).
  - Credentials (including permissive jump orders, if qualified).
  - Forms.
  - (1) DA Forms 1594.
  - (2) Other blank forms.
  - References.
  - Computers for information and data exchange.
  - Signal operating instructions extract.
  - Security code encryption device.
  - Communications equipment, including remote frequency modulation (FM) equipment.
  - Phone book.
  - List of commanders and staff officers.
  - Telephone calling (credit) card.
  - Movement table.
  - Administrative equipment (pens, paper, scissors, tape, and hole punch).
  - Map and chart equipment (pens, pins, protractor, straight edge, scale, distance counter, acetate, and unit markers).
  - Tent (camouflage net, cots, stove, as appropriate).
  - Foreign phrase book and dictionary.
  - Local currency as required.
- References.
- Excerpts of higher and sending headquarters' orders and plans.
- Sending unit's command diagrams and recapitulation of major systems. The unit modification table of organization and equipment (MTOE), unit status report (if appropriate because of the classification of the report), and mission briefings can be used. The G3 (S3) operations officer or the force modernization office is an excellent source for information.

Appendix F

Rehearsals

A rehearsal is the act or process of practicing an action to prepare for the actual performance. Rehearsing key combat actions before execution allows participants to become familiar with the operation and to translate the relatively dry recitation of the tactical plan into visual impression. This impression helps them orient themselves to their environment and other units when executing the operation. Moreover, the repetition of combat tasks during the rehearsal leaves a lasting mental picture of the sequence of key actions within the operation. This appendix describes rehearsal types, techniques, and responsibilities. Further, it provides guidelines for conducting rehearsals.

CONTENTS

GENERAL

F-1. Rehearsals allow subordinate units and leaders to analyze the tactical plan to ascertain its feasibility, its common sense, and the adequacy of its C2 measures. For units to be effective and efficient in combat, rehearsals need to become habitual in training. All units at every level should routinely train and practice a variety of rehearsal types and techniques. Local SOP should identify appropriate rehearsal types, techniques, and standards for their execution.

F-2. Time is key to conducting rehearsals, and is probably the most precious resource available to commanders and units. The time required for rehearsal

varies with the complexity of the task to rehearse, the type and technique of rehearsal, and the level of participation. Therefore, the emphasis on rehearsals should be at the lowest possible level, using the most thorough technique given the time available (see Figure F-1). When time is at a premium, the staff conducts reduced rehearsals, focusing only on critical events using reverse planning.

F-3. During offensive operations, the staff should focus on the following actions in order: the objective, passage of lines, movement to the objective, then other phases of the operation. During defensive operations, the staff should focus on counterreconnaissance, battle handover, commitment of counterattack forces on the striking force, then other phases of the operation. Each unit will have different critical events based on its training status and the unit commander's evaluation of training needs.

REHEARSAL TYPES

F-4. The five types of rehearsals are—
- Confirmation brief
- Backbrief
- Combined arms rehearsal
- Support rehearsal
- Battle drill or SOP rehearsal.

Each of the five types achieves a specific result and has a specific place in the military decision making process (MDMP) time line.

CONFIRMATION BRIEF

F-5. The confirmation brief is routinely performed by a subordinate leader *immediately after* receiving any instructions, such as an OPORD, a FRAGO, and so forth. Subordinate leaders brief the higher commander on their understanding of his intent, their specific task and purpose, and the relationship between their unit's missions and those of other units in the operation.

BACKBRIEF

F-6. The backbrief is normally performed *throughout* the MDMP by subordinates to their commander. This rehearsal allows the commander to clarify his intent early in the subordinates' planning process. It allows the higher commander to—
- Identify problems in his concept of operation.
- Identify problems in a subordinate unit commander's concept.
- Learn how subordinates intend to accomplish their missions.

COMBINED ARMS REHEARSAL

F-7. A maneuver unit headquarters normally conducts the combined arms rehearsal *after* subordinate units issue their OPORD. This rehearsal ensures that—
- The subordinate units synchronize their plans with those of the other units in the organization.

- All subordinate commanders' plans properly achieve the intent of the higher commander.

SUPPORT REHEARSAL

F-8. Units usually perform support rehearsals within the framework of a single or limited number of operating systems. They are referred to by the primary operating system being rehearsed; for example, the fire support (FS) rehearsal or the CSS rehearsal. Units perform support rehearsals *throughout* the MDMP time line. Although these rehearsals differ slightly by operating system, they achieve the same result:

- Ensure the proponents of a particular operating system that they can support the higher commander's plan and accomplish all missions assigned to them.
- Ensure that the particular operating system support plan is synchronized with the maneuver plan.

BATTLE DRILL OR SOP REHEARSALS

F-9. A battle drill or SOP rehearsal ensures that all participants understand a technique or a specific set of procedures. All echelons use these rehearsals, but most extensively at platoon, squad, and section levels. They perform them *throughout* the MDMP time line. This type of rehearsal is not limited to published battle drills. It could be the rehearsal of a tactical operations center (TOC) shift change, an obstacle breach lane-marking SOP, or the actions a petroleum, oils, and lubricants (POL) section takes at a refuel on the move (ROM) site or in the defense of the brigade support area (BSA).

REHEARSAL TECHNIQUES

F-10. Techniques for performing rehearsals are limited only by the resourcefulness of the unit. Generally, six techniques are used:

- Full dress
- Reduced force
- Terrain model
- Sketch map
- Map
- Network rehearsal (WANs and LANs).

These six techniques range from requiring extensive preparation time and resources to minimal requirements. As the techniques are listed, each successive technique takes a decreasing amount of time and resources to prepare and conduct. Each rehearsal technique provides different degrees of understanding to participants. Each has different security risks. Figure F-1 shows the rehearsal techniques relative to time, resourcing, operations security (OPSEC), participation, and understanding.

F-11. The following discussion addresses these considerations:

- Time—amount required from planning to execution.
- Multiechelon—number of echelons able to participate in the rehearsal.
- OPSEC—ease of the enemy to gather intelligence from the rehearsal.
- Terrain management considerations.
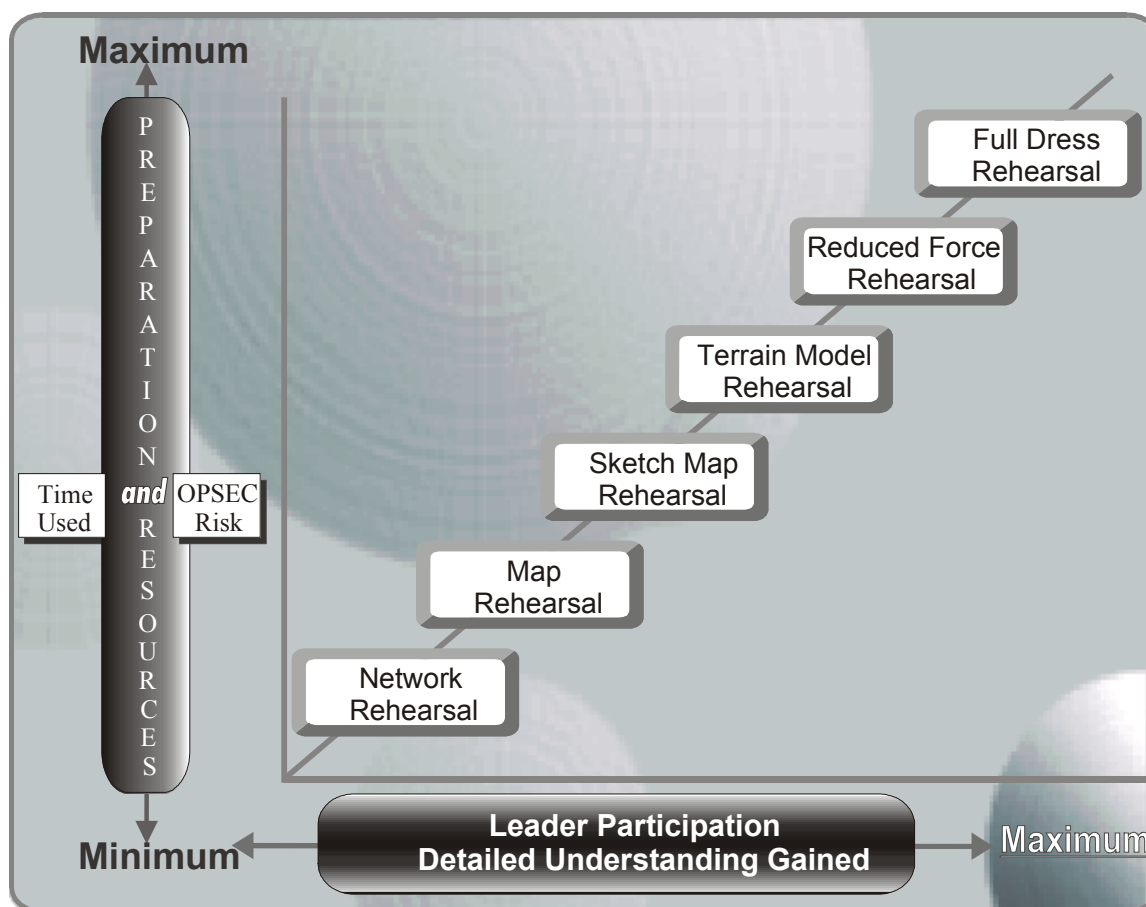
Figure F-1. Rehearsal Techniques Relative to Time, Resources, OPSEC, Participation, and Understanding

FULL DRESS REHEARSAL

F-12. The full dress rehearsal produces the most detailed understanding of the mission. It involves every soldier and system participating in the operation. If possible, units should conduct full dress rehearsals under the same conditions—weather, time of day, terrain, and use of live ammunition—that the force will encounter during the actual operation. The full dress rehearsal is the most difficult to accomplish at higher command levels. The commander must develop a second rehearsal plan that mirrors the actual plan but fits the terrain of the rehearsal.

F-13. Full dress rehearsal considerations are—

- Time consuming. Full dress rehearsals are the most time consuming of all rehearsal techniques. At the brigade and task force (TF) levels, the commander must not encroach on subordinate units' timetables by scheduling a full dress rehearsal at his convenience. For smaller units, company and below, the full dress rehearsal is the most effective technique for ensuring everyone in the operation understands his part.

- Multiechelon. A subordinate unit can perform a full dress rehearsal as part of a larger unit's reduced force rehearsal.
- OPSEC. Moving a large body of the force attracts enemy attention. Units must develop a plan to protect the rehearsal from the eyes of the enemy. One method is to develop a second plan to include graphics and radio frequencies. Units must do this carefully to avoid confusing subordinates or giving the plan away if the enemy observes the rehearsal.
- Terrain. Terrain management for the full dress technique can be difficult if it is not planned into the initial array of forces. The unit must identify, secure, clear, and maintain the rehearsal area throughout the rehearsal process.

REDUCED FORCE REHEARSAL

F-14. The reduced force rehearsal normally takes fewer resources than a full dress rehearsal because it involves only the unit's and subordinate units' key leaders. Terrain requirements can be the same as for a full dress rehearsal, but there are fewer participants. The commander first decides the level of leader involvement. His selected leaders then rehearse the plan while traversing the actual or like terrain. Commanders often use this rehearsal to rehearse the fire control measures in an engagement area during defensive operations. The reduced force rehearsal allows the leadership to rehearse the mission before moving to the full dress rehearsal. The unit must develop a second rehearsal plan that mirrors the actual plan but fits the terrain of the rehearsal.

F-15. Reduced force rehearsal considerations are—
- Time. The reduced force rehearsal normally requires less time than the full dress technique. Again, the commander must not encroach on subordinate units' timetables by scheduling the rehearsal at his convenience.
- Multiechelon. A small subordinate unit can perform a full dress rehearsal as part of a larger unit's reduced force rehearsal.
- OPSEC. This rehearsal is less likely to become an OPSEC problem than the full dress rehearsal because the unit is smaller, but the number of radio transmissions stays the same as the full dress rehearsal's and remains a consideration.
- Terrain. Terrain management for the reduced force rehearsal can be just as difficult as for the full dress rehearsal. The unit must identify, secure, clear, and maintain the rehearsal area throughout the rehearsal process.

TERRAIN MODEL REHEARSAL

F-16. The terrain model rehearsal takes less time and fewer resources than the reduced force or key leader rehearsal, and is the most popular technique. An accurately constructed terrain model can help subordinate leaders visualize the battle in accordance with their commander's intentions. When possible, the commander should place the terrain model where it overlooks the actual terrain of the area of operations (AO). However, if the situation requires more security, he places the terrain model on the reverse slope of a vantage point within walking distance of a point overlooking the AO. The

model's orientation should coincide with the actual orientation of the terrain to help participants orient to the actual AO. The size of the terrain model can vary from the use of icons to represent units to a large model on which the participants can walk. A large model helps reinforce the participants' perception of unit positions on the actual terrain.

F-17. Terrain model considerations are—

* Time. The most time-consuming part of the technique can be constructing the terrain model. Units must have clear SOP stating how it will be built to ensure the model is accurate, large enough, and in sufficient detail to rehearse the mission. The SOP must also state who will build it, and when.
* Multiechelon. Because the terrain model rehearsal takes less time than the real operation, multiechelon rehearsals are difficult.
* OPSEC. This rehearsal can become an OPSEC problem if the area around the rehearsal site is not secured. The collection of commanders and their vehicles can draw the enemy's attention. Units must sanitize the terrain model after completing the rehearsal.
* Terrain. Terrain management is less difficult than the previous techniques. The location of the site must be easy to find for the friendly commanders, yet invisible to the enemy. The optimum location is overlooking the terrain where the unit conducts the mission.

SKETCH MAP REHEARSAL

F-18. Units can use the sketch map technique almost anywhere, day or night. The procedures are the same as for a terrain model rehearsal, except the commander uses a sketch in place of a model. Sketches must be large enough for all participants to see as each subordinate "walks" through the interactive verbal execution of the operation. Units move symbols to represent their maneuver and location on the sketch.

F-19. Sketch map considerations are—

* OPSEC. This rehearsal, like the terrain model rehearsal, can become an OPSEC problem if performed outside and the area around the rehearsal site is not secured. Another concern is that the collection of commanders and their vehicles can draw attention.
* Terrain. The optimum location is overlooking the terrain where the unit performs the mission.

MAP REHEARSAL

F-20. The map rehearsal procedures are similar to the sketch map rehearsal, except the commander uses a map and operation overlay of the same scale as he used to plan and control the operation.

F-21. Map rehearsal considerations are—

* Time. The most time-consuming part is the rehearsal itself. The setup for this rehearsal is normally the easiest because it requires only maps and current operational graphics.
* OPSEC. This technique can become an OPSEC problem if performed outside and the area around the rehearsal site is not secured. Another

concern is that the collection of commanders and their vehicles can bring attention from the enemy.

- Terrain. The optimum location is overlooking the terrain where the unit performs the mission.

NETWORK REHEARSAL (WAN/LAN)

F-22. The commander and his staff conduct network rehearsals by interactively and verbally executing critical portions of the operation over established communications networks. The commander accomplishes this in a general sequence of events he establishes. Because of the obvious dangers involved with using this rehearsal, the unit rehearses only the essential, most-critical portions of the operation. These rehearsals include all communications facilities and equipment necessary to conduct that portion of the operation. To be effective, all participants must have working communications equipment and a copy of the OPORD and overlays. The TOC can rehearse tracking the battle simultaneously.

F-23. Network rehearsal considerations are—

- Time. This technique can be very time consuming if the unit does not have a clear SOP for performing it, and if all units have working communications and are up on the net.
- OPSEC. This rehearsal can become an OPSEC problem because of the volume of the communications transmissions and potential compromise of information through enemy SIGINT monitoring. The unit should use different frequencies to protect the ones used for the operation. Using wire systems is an option but does not exercise the network systems, which is the strong point of this rehearsal.

REHEARSAL RESPONSIBILITIES

F-24. This discussion of rehearsal responsibilities addresses planning, preparation, and execution; it centers on the combined arms rehearsal. The responsibilities do not change for support rehearsals, only the position titles; for example, the G3 (S3) becomes the security, plans, and operations officer (SPO).

PLANNING

F-25. *The commander* provides the following information as part of the commander's guidance during the initial mission analysis and re-evaluates it when he selects a course of action (COA):

- Type of rehearsal.
- Rehearsal technique.
- Place.
- Attendees.
- Enemy COA to be portrayed.

F-26. *The CofS (XO)* ensures that all rehearsals are embedded in the unit's time management system. He is responsible for—

- Publishing the rehearsal time and location in the OPORD or in a warning order.
- Completing any rehearsals with the staff.

- Determining rehearsal products based on type, technique, and METT-TC.
- Coordinating liaison officer (LNO) attendance from adjacent units.

PREPARATION

F-27. *The commander,* ideally, prepares to rehearse the mission with events phased in proper order from start to finish. When time is short, this is not always possible. The commander—
- Identifies and prioritizes key events to rehearse.
- Allocates time for the events to rehearse.
- Conducts personal preparation, to include reviews of:
  - Completeness of task organization.
  - Readiness of personnel and material.
  - Unit level of preparation for the assigned mission.

F-28. *The CofS (XO)*, through war gaming and coordinating with the commander—
- Coordinates and allocates time for key events requiring rehearsal.
- Establishes rehearsal time limits according to the commander's guidance and METT-TC.
- Verifies rehearsal site preparation. A separate rehearsal site may be required for key rehearsal events such as an enlarged objective area or a possible obstacle site. The rehearsal site must be accurate and complete, with—
  - Appropriate markings and associated training aids.
  - Parking areas.
  - Local security.
- Determines the method for controlling the rehearsal and ensuring its logical flow. Page F-10 discusses using a script to control the rehearsal.

F-29. *Subordinate leaders* complete their planning process, to include—
- Completing unit order and plans.
- Identifying issues derived from the parent unit order.
- Providing a copy of their unit order, with graphics, to the parent unit.
- Conducting personal preparation similar to that of the senior commander.

F-30. Higher headquarters—
- Must deconflict all subordinate unit graphics. Composite overlays are the first step for leaders to visualize the whole unit's plan.
- Publish composite overlays at the rehearsal to include, at a minimum—
  - Maneuver.
  - Fire support.
  - Mobility and survivability (M/S).
  - CSS.

EXECUTION

F-31. *The commander* must command the rehearsal, just as he will command the fight. He must maintain the focus and level of intensity, allowing no potential for subordinate confusion. Although the staff refined the plan, it belongs to the commander who uses it to fight. The rehearsal cannot become his brief to subordinate commanders. Its purpose is to validate synchronization—what, when, and where—of subordinate units' tasks to execute the commander's intent.

F-32. *The CofS (XO)* should direct the rehearsal. If the G3 (S3) is the director, the CofS (XO) will not sense the intricacies necessary to synchronize the combined arms team. The TOC then becomes a mere site for situation maps, not the proactive agent that molds the force's effects to achieve the commander's vision for success. The CofS (XO) must—

- Conduct a formal roll call and ensure that everyone brings the necessary equipment, including unit graphics and previously issued orders, to help adjust to the rehearsal plan.
- Validate task organization for the mission. Linkups must be complete or on schedule and required material and personnel on hand. *The importance of this simple check cannot be overemphasized.*
- Rehearse the synchronization of combat power from flank, higher, and his own units, which are often beyond communications' reach of the commander and G3 (S3).
- Synchronize the timing and contribution of each operating system by ensuring the rehearsal of the decisive points—by time or event that connect to a decision. He must define the conditions required to—
    - Commit the reserve.
    - Move a unit.
    - Close or emplace an obstacle.
    - Fire a specific target.
    - Move a medical station, change a supply route, and alert specific observation posts (OPs).
- Discipline leader movements, enforce brevity, and ensure completeness at the rehearsal. The OPORD, decision support template (DST), and execution matrix are his tools.
- Keep within established time constraints
- Ensure that selected events receive appropriate attention
- Ensure that absentees and flank units receive changes, and transmit changes by courier or radio immediately.

F-33. *The G3 (S3)* assists the commander in the fight forward and rehearses that task. He—

- Portrays his actions during the fight.
- Ensures compliance with the plan.

F-34. *The G2 (S2)* bases his execution actions on the enemy COA the commander selects during the planning process. The G2 (S2) must—

- Portray his best assessment of the enemy COA.

- Communicate the enemy commander's presumed concept of operation, desired effects, and intended end state.

F-35. *Subordinate unit leaders*, using an established format—
- Effectively articulate their units' actions and responsibilities.
- Record changes on their copies of the graphics or OPORD.

F-36. *The recorder*, after the rehearsal is complete—
- Restates any changes, coordination, or clarifications directed by the commander.
- Estimates the time that a written FRAGO codifying the changes will follow.

F-37. *The staff* updates the OPORD, DST, and synchronization matrix.

F-38. If the rehearsal is executed properly, leader participation should validate each leader's role as part of the whole force—what is done, when relative to time and event, and where to achieve desired effects. The rehearsal ensures that commanders have a common visualization of the enemy, their own forces, the terrain, and the relationship between them. It identifies specific actions requiring immediate staff resolution and informs the higher commander of critical issues or locations he or his CofS (XO) or G2 (S3) must personally oversee.

REHEARSAL SCRIPT

F-39. An effective technique for controlling the rehearsals is to use a script. It keeps the rehearsal on track and is a checklist to ensure the unit addresses all operating systems and outstanding issues during the rehearsal. The script has four major parts:
- Agenda
- Response sequence
- Actions checklist (friendly and enemy)
- Sequence of events

AGENDA

F-40. Units must rehearse using the tools they will use when fighting the battle: the OPORD, the execution matrix, and the DST. These can both drive and focus the rehearsal. During fire support or CSS rehearsals, the unit can use the fire support execution matrix and the logistics synchronization matrix. These two products are tied directly to the corresponding level execution matrix and DST.

RESPONSE SEQUENCE

F-41. The players must respond in a logical sequence, which might be by operating system or by unit as the organization is deployed from front to rear. The commander must determine the sequence before the rehearsal and post it at the rehearsal site.

ACTIONS CHECKLIST

F-42. The enemy force must be portrayed effectively and quickly without distracting from the rehearsal. A technique is to establish a sequence much like that of the friendly units, but from the enemy perspective.

SEQUENCE OF EVENTS

F-43. The following paragraphs provide a generic sequence of events for a rehearsal. Although developed for a combined arms rehearsal, with a few modifications, units can use this sequence for FS and CSS rehearsals. This example fits brigade, task force/battalion, company- team-level rehearsals, and supports any rehearsal technique. The agenda's products depend on the rehearsal type. The response sequence must be determined up front and posted to keep the rehearsal moving.

F-44. **Step 1. Ground Rules**.

- Call roll and start on time.
- Quickly review your SOP if you have new players at the rehearsal.
- Ensure a recorder is ready.
- Provide an orientation to the rehearsal product and important graphic control measures.
- Designate the rehearsal start time in relation to the operation. An event after the first event allows for proper deployment of forces.
- Ensure everyone understands the parts of the plans to rehearse.
- Update friendly and enemy activities as necessary. Some units may already be executing.

F-45. **Step 2. Deployment of the Enemy Forces**. Deploy the enemy forces on the rehearsal product as they would look just before the first rehearsal event. Restating the enemy equipment may be a waste of time by this point.

In the predetermined sequence, the players, using an established format, verbalize and act out their unit's actions at that point in time. If no action is taken then the "unit" states, "No change," meaning the unit's status has not changed since the previous event. This "acting out" continues in sequence until all the players respond. When one player finishes, the next player immediately begins without being prompted. This facilitates a focused, timely rehearsal.

F-46. **Step 3. Deployment of the Friendly Forces**. Deploy the friendly forces, including adjacent units, to the point in time the rehearsal will start. As friendly units are *initially* posted to the rehearsal product, they should state their task and purpose, task organization, and strength.

F-47. Other special units may brief their subordinate unit positions at the start time, as well as at any particular points of emphasis, to include forward arming and refueling points (FARPs), ROM, or communications checkpoints (CCPs). Restating the commander's intent may not be necessary at this point.

F-48. **Step 4. Advancement of the Enemy**. Begin to advance the enemy on his *most likely course of action (*situational template) as it pertains to the point on the execution matrix. In Step 2, the enemy deploys to the point

where the rehearsal starts and continues to maneuver from there. Depiction must be definitive, tying enemy actions to specific terrain or friendly units' actions. The commander must communicate an accurate portrayal of the situational template developed for the staff war-gaming process. The enemy is uncooperative, but not invincible.

F-49. **Step 5. Decision Point**. On completing enemy actions, assess conditions to determine if a decision point has been reached. These are the decision points taken directly from the DST.

- **Not at a Decision Point**. If the unit is not at a decision point, and not at the end state, it continues by stating the next event on the synchronization matrix and, using the predetermined sequence, continues to act out and verbalize the actions. The right side of the synchronization matrix represents this.
- **At a Decision Point**. If the unit reaches a decision point, the commander, having seen the established conditions, states his decision to continue on the current course or to select a branch. If the commander selects to stay with the current COA, he states the next event from the matrix and advances the friendly units. *If he selects a branch*, the commander states why he selected that branch, states the first event of that branch, and continues the rehearsal from that point until the unit rehearses all events of that branch. As the unit reaches decisive points, the XO states the conditions for success.

F-50. **Step 6. Branch End State Reached**. Terminate the initial phase of the rehearsal after achieving the desired end state of the branch. In an attack, this will usually be on the objective after completing consolidation and casualty evacuation. In the defense, this will usually be after the decisive action—such as committing the reserve—and the final destruction or withdrawal of the enemy and casualty evacuation are complete.

F-51. **Step 7. Recock**. After the initial phase, "recock" to the situation at the first decision point. State the criteria for a decision to change the plan. Assume these criteria have been met and then refight the fight from that point forward, until attaining the desired end state. Complete any coordination to ensure understanding and meeting requirements. Record any changes. Go to the next decision point, assuming that criteria have been met. Repeat the previous steps until the unit rehearses all decision points and branches.

OTHER CONSIDERATIONS

F-52. The commander does not normally address small issues that arise during the rehearsal; instead, he records them. This ensures the rehearsal's flow is uninterrupted. If the issue still stands at the end of the rehearsal, it must be resolved. However, if the issue can wait until the end of the rehearsal, it may not have been an issue after all. If the issue is a war stopper, the staff must *stop and accomplish the coordination immediately*, because it is one of the key points of the rehearsals. If it is not done immediately, it will be difficult to get the word to all the players later.

F-53. Key CS and CSS items need to be part of the rehearsal, including plans for casualty evacuation, routes, ambulance exchange point locations, ROM, Class IV and V resupply points, logistics release points, displacement times

and locations for the BSA, EPW collection points, aviation support, and military police actions. The coordinating staff officer should inject these items into the rehearsal at the appropriate times. *Summarizing these actions at the end of the rehearsal dilutes the value of the rehearsal as a coordination tool.* The staff updates the division support matrix and provides it to each leader before departure. An option is to provide it before the rehearsal and rely on individual pen and ink changes for each update. This is the final opportunity for subordinates to identify and resolve "dangling" issues. The staff must ensure that all players understand and the recorder captures all coordination done at the rehearsal. All changes to the published order are, in effect, verbal FRAGOs. As soon as possible, the staff should collect the verbal FRAGOs into a written change to the order.

CONDUCTING A REHEARSAL

F-54. Participants can use the following sequential guidelines during rehearsals:

- Orient participants to the training aid and the terrain.
- Define the standard (what the commander will accept as satisfactory performance for the rehearsal).
- Visualize and synchronize the concept of operations. Verbally walk through the concept of operations. Subordinate commanders should interactively verbalize their units' actions, entering or leaving the discussion at the time they would expect to begin or end their tasks or activities on the battlefield. This helps the commander assess the adequacy of synchronization.
- Focus on the key events and the synchronization required to achieve the desired effect on the enemy.
- Consider the enemy's COAs (using the possibilities derived from the war game during COA analysis).
- Address any points in the operation where the execution of branches or sequels is likely to occur.
- If the standard is not met, and time permits, rehearse again.
- For feedback, make the necessary changes to the decision support template (such as positions, synchronization, or decision point locations).

BEFORE THE REHEARSAL

F-55. Once participants assemble at the rehearsal site, the rehearsal leader—the commander, CofS (XO), or G3 (S3)—briefs them and leads the rehearsal. The briefing must include an introduction, overview, and orientation.

Introduction and Overview

F-56. The commander, CofS (XO), or G3 (S3) *introduces* himself and all other participants as appropriate. He then gives an *overview* of the briefing topics, the rehearsal subjects and sequence, and the time line specifying the no later than (NLT) ending time. He explains after-action reviews and how and when they occur, and discusses how to incorporate changes into the existing order. He explains, in detail, restrictions imposed on the force, such as using pyro

technics, light discipline, weapons firing, or radio transmissions. He ensures that all participants understand safety precautions and enforces their use. Last, he emphasizes results and what standards of task execution he expects. He allows subordinate leaders to relate any results of tactical planning or rehearsals they may have already conducted. If the subordinate unit recommends a change to the existing plan, the commander, the CofS (XO), or the G3 (S3) acts on the recommendation before the rehearsal begins if possible. If not, the commander resolves the recommendation by a decision before the rehearsal ends.

Orientation

F-57. The rehearsal leader gives an orientation to familiarize participants with the terrain or scale model in use. He also issues supplemental materials, if appropriate. He identifies magnetic north on the terrain model or scaled terrain, and points out objects and features representing actual terrain features. He also explains any graphic control symbols, obstacles, or fire support targets. The rehearsal leader always concludes the orientation with a call for questions.

DURING THE REHEARSAL

F-58. After the briefing, the rehearsal begins according to the rehearsal plan. Before the rehearsal, the staff should develop the plan or order with at least the basic five paragraphs and necessary overlays. At this time, annexes may not be published; however, the details should be developed. Commanders must remember that the rehearsal is not a substitute for the war game.

F-59. The commander, CofS (XO), or G3 (S3) observes and critiques all portions of the rehearsal. Critiques center on meeting the commander's intent and coordination between units. The internal execution of tasks within the rehearsal is usually left to the subordinate unit commander's judgment and discretion. Leaders at all levels conduct periodic after-action reviews to ensure that units rehearse tasks to acceptable levels of competence and that substandard performance is not reinforced.

F-60. After-action reports also provide an opportunity to incorporate lessons learned into the existing plan or into subsequent rehearsals. The rehearsal leader must emphasize integrating fire support, events which trigger different branch actions, and actions on contact. If units in reserve participate, they should rehearse all of their most likely branches. Rehearsals continue until units are competent or until maximum time available expires. (Before the commander adjusts rehearsal times, he must consider how his decision affects a subordinate commander's time plan.) Subsequent rehearsals may employ more complexity and realism as time and the commander permit.

F-61. The commander leads the rehearsal; his staff runs it. The director of the rehearsal is the CofS (XO). As such, he rehearses his role during the operation. He ensures the right unit accomplishes tasks at the right time and cues the commander to upcoming decisions. The CofS's (XO's) script is the execution matrix and the DST. These are the foundations for the OPORD and are recorded in chronological order. A terrain model rehearsal takes a proficient brigade from 1 to 2 hours to execute to standard. The following steps outline the process for conducting a rehearsal:

- Start at the appointed time and conduct a formal roll call. Ensure everyone brings binoculars, maps, and necessary equipment.
- Ensure that the CofS (XO) or the G3 (S3) orients the terrain model to the actual ground, the operations overlay, and the map. Describe and point out the overall AO and explain the markers used on the terrain model.
- Brief the time line. The CofS (XO), or the G3 (S3) should do this. Designate the rehearsal start time. For example, have the rehearsal begin by depicting the anticipated situation 1 hour before departure. Set the time interval to begin and track the rehearsal. For example, specify a 10-minute interval to equate to 1 hour of real time during the operation (see Figure F-2).

TIME	(LIGHT DATA)	ACTION
1810	EENT	
1830	IR X IO	
1900		TF scouts cross LD.
0400	60% ILLUM	Conducts initial update on ops and intel FM radio net.
0600	BMNT	FA prep start (50-min prep).
0615		TF 1-3 and TF 1-2 cross LD.
0620	SR	TF1-2 and TF 1-3 receive ENY FA fires.
0640		TF 1-2 encounters ENY at CP 3.
0705		TF 1-2 attacks to seize OBJ GEORGE.
0720		TF 1-2 attacks to seize OBJ FRED.
0730		ENY commits a platoon-size tank reserve against TF 1-2. ALK w/FA (deep ops)
0736		ENY conducts NBC attack. (FA delivered) against TF 1-3.
0746		ENY reserve engages TF 1-2, ...and so on.

NOTE: EENT-end evening nautical twilight: IR X-C infrared light cross-over: BMNT-- begin morning nautical twilight: SR--sunrise

Figure F-2. Vertical Time Line Rehearsal Technique

- Designate the recorder. This should be the G3 (S3), or a designated representative from the operations cell. Highlight the ground rules and incorporate them into SOP. The ground rules include who controls the rehearsal, who actually walks the terrain board, and when special staff officers will brief the commander. Special staff officers should brief by exception when a friendly or enemy event occurs within their operating system.
- The G3 (S3) reads the mission statement, the commander reads his commander's intent, and the G3 (S3) lays out the current friendly situation, using the terrain model.

- The G2 (S2) briefs the current enemy situation, which should already be set up on the terrain model. He then briefs the most likely enemy COA. The G2 (S2) also briefs the status of the reconnaissance and surveillance plan (for example, citing any patrols still out or any observation post positions or combat outposts).

- The G3 (S3) briefs friendly maneuver unit dispositions at the rehearsal start time, including security forces. Other staff officers brief their subordinate unit positions at the start time, as well as at any particular points of emphasis. For example, the chemical officer briefs the MOPP level, and the fire support officer details the range of friendly and enemy artillery.

- The commander gives appropriate commands. Fire support officers and FSCOORDs state when they initiate fires, who is firing, from where, the ammunition, and the desired target effect. Commanders state when they initiate fire in accordance with their fire support plans. The CofS (XO) talks for any staff section not present and ensures all actions on the synchronization matrix or DST are addressed at the proper time or event. Everyone should avoid "rewargaming" except as absolutely necessary to ensure subordinate unit commanders understand the plan. If the staff has developed an order that addresses contingencies, it does not war game the operation at the rehearsal site.

- The G2 (S2) section portrays the enemy and walks the enemy through the most likely COA (situational template), stressing reconnaissance routes, objectives, security force composition and locations, initial contact, initial fires (artillery, air, attack helicopters), probable main force objectives or engagement areas, likely chemical attack times and locations, and likely commitment of reserves. The G2 (S2) section must be specific, tying enemy actions to specific terrain or friendly unit actions. The walk through should be an accurate portrayal of the event template.

- Terminate the first phase of the rehearsal after achieving the desired end state (from the commander's intent). In the offense, this is usually on the objective after consolidation. In the defense, this is usually after the decisive action, such as committing the reserve, and the final destruction or withdrawal of the enemy.

- When it becomes obvious that the operation requires additional coordination to ensure success, the force must immediately try to accomplish it. This coordination is one of the key points of the rehearsal. The commander and staff must ensure that the recorder captures and all participants understand coordination, and that all changes to the published OPORD are in effect. However, this is not the time to make major changes unless they are vital. As soon as possible, the G3 (S3) should collect the verbal FRAGOs into a written change to the OPORD.

- After the initial walk through of the base order, participants need to backstep to the situation at the initial decision point. The commander should state the criteria for a decision to change the plan. The participants should assume these criteria have been met and then refight from that point forward until they attain the desired end state.

They complete coordination to ensure the plan is understood and requirements are met, and record any changes.

- Participants then go to the next decision point and ensure that they have met the criteria for that action. They then repeat the preceding bullet.
- The staff repeats this process at each decision point until they have rehearsed them all.
- The staff briefs key CS and CSS actions. It integrates these items into the rehearsal at the appropriate times. Summarizing these actions at the end of the rehearsal adds to the value of the rehearsal as a coordination tool.
- At the end of the rehearsal, the recorder restates any changes, coordination, or clarifications the commander directs, and the recorder estimates how long it will take to codify changes in a written FRAGO.
- The commander should stress any points needing additional emphasis, and should consider reiterating his intent (end state, key tasks).

AFTER THE REHEARSAL

F-62. After the rehearsal, the commander reassembles participants to conduct an after-action review. The commander reviews lessons learned and makes only the absolute minimum required modifications to the existing plan. (Normally, a FRAGO effects these changes.) This meeting also allows the commander to issue any last-minute instructions or reminders and to reiterate his intent.

F-63. Subordinate commanders incorporate any changes the commander makes to the existing plan into their units' orders and plans. Such changes are also briefed to any key leader or unit that did not participate in the rehearsal. Changes to the plan should be refinements to that plan; they should not be radical or significant. Changes not critical to the operation's execution can confuse subordinates and desynchronize the plan

Glossary

AAR	after-action review
ABCS	Army Battle Command System
*adjustment decision	during preparation and execution, selecting a course of action that modifies the order to respond to unanticipated opportunities or threats
AFATADS	Advanced Field Artillery Tactical Data System
AMDPCS	Air and Missile Defense Planning and Control System
AO	area of operations
AR	Army regulation
ASAS	All Source Analysis System
assessment	(Army) continuous monitoring—throughout planning, preparation, and execution—of the current situation and progress of an operation and the evaluation of it against criteria of success to make decisions and adjustments (FM 3-0)
AUTL	Army Universal Task List
battle command	the exercise of command in operations against a hostile, thinking enemy (FM 3-0)
BOS	battlefield operating systems
*calculated risk	an exposure to chance of injury or loss when the commander can visualize the outcome in terms of mission accomplishment or damage to the force, and judges the outcome as worth the cost
C2	command and control
CCIR	commander's critical information requirements
CNR	combat net radio
COA	course of action
*civil considerations	how the man-made infrastructure, civilian institutions, and attitudes and activities of the civilian leaders, populations, and organizations within an area of operations influence the conduct of military operations
cognition	the act of learning, of integrating from various pieces of information
*collecting	the continuous acquisition of relevant information by any means, including direct observation, other organic resources, or other official, unofficial, or public sources from the information environment

combat information unevaluated data gathered by or provided directly to the commander which, due to its highly perishable nature or the criticality of the situation, cannot be processed in time to satisfy the commander's information requirements

command the authority that a commander in the military service lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. (JP 1-02)

*command and control (Army) the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. He performs command and control functions through a command and control system

*command and control system (Army) the arrangement of personnel, information management, procedures, and equipment and facilities essential to the commander to conduct operations

commander's critical information requirements (Army) elements of information required by commanders that directly affect decision making and dictate the successful execution of military operations (FM 3-0)

commander's intent (Army) a clear, concise statement of what the force must do and the conditions the force must meet to succeed with respect to the enemy, terrain, and to the desired end state (FM 3-0)

*commander's visualization the mental process of achieving a clear understanding of the force's current state with relation to the enemy and environment (situational understanding), developing a desired end state which represents mission accomplishment, and then subsequently determining the key tasks involved in moving the force from its current state to the end state

command post a unit's headquarters where the commander and staff perform their activities. In combat, this headquarters is often divided into echelons (JP 1-02)

common operational picture (Army) An operational picture tailored to the user's requirements, based on common data and information shared by more than one command (FM 3-0)

COP common operational picture

CP command post

CS combat support

CSS combat service support

CSSCS Combat Service Support Control System

CTC combat training center

*conduct   performance of the activities of the operations process: planning, preparing, executing, and continuously assessing

*control   (Army) the regulation of forces and other battlefield operating systems (BOS) to accomplish the mission in accordance with the commander's intent. It includes collecting, processing, displaying, storing, and disseminating relevant information for creating the common operational picture and using information during the operations process.

*coordination   actions taken to maintain synchronization and prevent confusion and problems [NB: use USMC definition].

*criteria of success   information requirements developed during the operations process that measure the degree of success in accomplishing the unit's mission. They are normally expressed as either an explicit evaluation of the present situation or forecast of the degree of mission accomplishment.

data   (Army) raw signals from the environment not processed in any way; the lowest class of information on the cognitive hierarchy. It includes raw signals or sensing detected by a sensor or collector of any kind (human, mechanical, or electronic) from the environment or communicated between any kind of nodes in a system. [NB: DOD definition?]

*decision making   selecting a course of action as the one most favorable to accomplish the mission

*describing   relating operations to time and space in terms of accomplishing the purpose of the overall operation

*directed telescope   using a dedicated information collector—a trusted and like-minded subordinate—to observe selected events or units and report directly to the commander

*directing   communicating execution information

*display   (Army) representing relevant information in a usable, easily understood audio or visual form tailored to the needs of the user that conveys the COP for decision making and exercising C2 functions.

*disseminating   communicating relevant information of any kind from one person or place to another in a usable form by any means to improve understanding or to initiate or govern action

DS   direct support

DST   decision support template

EEFI   essential elements of friendly information

EMCON   emission control

essential elements of friendly information   (Army) the critical aspects of a friendly operation that, if known by the enemy, would subsequently

	compromise, lead to failure, or limit success of the operation and therefore must be protected from enemy detection (FM 3-13)
*evaluating	**c**omparing relevant information on the situation or operation against criteria to judge success or progress
*executing	putting a plan into action by applying combat power to accomplish the mission and using situational understanding to assess progress and make execution and adjustment decisions
*execution decisions	during preparation and execution, selecting a course of action anticipated by the order
*execution information	information that communicates a decision and directs, initiates, or governs action, conduct, or procedure
*facility	a structure or location providing a work environment
FRAGO	fragmentary order
FSCL	fire support coordination line
FBCB2	Force XXI Battle Command Brigade and Below System
FFIR	friendly force information requirements
FM	field manual
*friendly force information requirements	information the commander and staff need about the forces available for the operation
GCCS	Global Command and Control System
HQ	headquarters
information	(Army) (1) the meaning humans assign to data. (2) on the cognitive hierarchy, consists of data that has been processed to provide further meaning.
information management	the provision of relevant information to the right person at the right time in a usable form to facilitate situational understanding and decision making. It uses procedures and information systems to collect, process, store, display, and disseminate information. (FM 3-0)
*information requirements	all of the information elements required by the commander and staff to successfully conduct operations, that is, all elements necessary to address the factors of METT-TC
information system	(Army) the equipment and facilities that collect, process, store, display and disseminate information. These include computers—hardware and software—and communications as well as policies and procedures for their use. (FM 3-0)
INFOSYS	information system
*intuitive decision making	decision making that emphasizes recognition based on knowledge, judgment, experience, education, intellect, boldness, perception, and character
IO	information operations

IPB	intelligence preparation of the battlefield
IR	information requirement
ISR	intelligence, surveillance, and reconnaissance
JP	joint publication
***knowledge**	information analyzed to provide meaning and value or evaluated as to implications for the operation
LAN	local area network
leadership	influencing people—by providing purpose, direction, and motivation—while operating to accomplish the mission and improving the organization (FM 6-22)
LNO	liaison officer
MCS	Maneuver Control System
MDMP	military decision making process
METL	mission essential task list
***METT-TC**	the major subject categories into which RI is grouped for military operations: mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (in tactics, the major factors considered during mission analysis).
***military gamble**	a situation in which a commander risks the force without a reasonable level of information about the outcome
***mission command**	the conduct of military operations through decentralized execution based upon mission orders for effective mission accomplishment. Successful mission command results from subordinate leaders at all echelons exercising disciplined initiative within the commander's intent to accomplish missions. It requires an environment of trust and mutual understanding.
***mission orders**	A technique for completing combat orders to allow subordinates maximum freedom of planning and action to accomplish missions that leaves the "how" of mission accomplishment to the subordinate.
***monitoring**	(Army) Continuous observation of the common operational picture to identify indicators of opportunities for success, threats to the force, and gaps in information.
MSC	major subordinate command
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, and chemical
NGO	nongovernmental organization
OB	order of battle
OODA cycle	Observe-Orient-Decide-Act cycle
OPCON	operational control

operational picture	(Army) a single display of relevant information within a commander's area of interest (FM 3-0)
OPLAN	operation plan
OPORD	operation order
OPSEC	operations security
organizational leadership	See FM 6-22
PIR	priority intelligence requirements
planning	(Army) the means by which the commander envisions a desired outcome, lays out effective ways of achieving it, and communicates to his subordinates his vision, intent, and decisions, focusing on the results he expects to achieve (FM 3-0)
*positive control	(Army) a technique of regulating forces that involves commanders and leaders actively assessing, deciding, and directing them
POS/NAV	position/navigation
preparation	activities by the unit before execution to improve its ability to conduct the operation including, but not limited to, the following: plan refinement, rehearsals, reconnaissance, coordination, inspections, and movement (FM 3-0)
priority intelligence requirements	those intelligence requirements for which a commander has an anticipated and stated priority in the task of planning and decision making (JP 1-02)
*procedural control	(Army) a technique of regulating forces that relies on a combination of orders, regulations, policies, doctrine, and tactics, techniques, and procedures
*process	(Army) raising the meaning of information from data to knowledge, which supports achieving situational understanding
rear CP	rear command post
*rehearsal	practicing actions to improve performance in execution
relevant information	all information of importance to the commander and staff in the exercise of command and control
RI	relevant information
situational understanding	(Army) the product of applying analysis and judgment to the COP to determine the relationships among the factors of METT-TC. It enhances decision making by identifying opportunities for mission accomplishment, threats to the force or mission accomplishment, and information gaps (FM 3-0)
SOF	special operations forces
SOP	standing operating procedures
*staff running estimates	continuously updated staff estimates based on new information as the operation proceeds

*storing	(Army) retaining RI in any form, usually for orderly, timely retrieval and documentation, until it is needed for exercising C2
*structure	(Army) a defined organization—establishing relationships among its elements—or procedure—establishing relationships among activities
subordinates' initiative	(Army) the assumption of responsibility to decide and initiate independent actions when their commander's concept of operations or order no longer applies or when an unanticipated opportunity leading to accomplishing the commander's intent presents itself. It is contrasted with tactical initiative that involves seizing and dictating the terms of action throughout the battle or operation (FM 6-22)
tac CP	tactical command post
TACON	tactical control
TEWTs	tactical exercises without troops
TLP	troop leading procedures
TOC	tactical operation center
TOE	table of organization and equipment
TTP	tactics, techniques, and procedures
UCMJ	Uniform Code of Military Justice
understanding	knowledge that has been synthesized and had judgment applied to it in a specific situation to comprehend the situation's inner relationships
*unity of effort	coordination and cooperation among all forces toward a commonly recognized objective, even if the forces are not necessarily part of the same command structure
*variances	differences between the actual situation during an operation and what the plan forecasted the situation would be at that time or event
*visualizing	creating and thinking in mental images
WAN	wide area network
XO	executive officer

Bibliography

The bibliography lists field manuals by new number followed by old number.

JOINT PUBLICATIONS

Most joint publications are available online: http://www.dtic.mil/doctrine/jel/

(S) CJCSI 3121.01A. *Standing Rules of Engagement for US Forces (U)*. 1 September 1999.

CJCSI 3151.01. *Global Command and Control System Common Operational Picture Reporting Requirements*. 10 June 1997.

CJCSM 3500.04C. *Universal Joint Task List*. 01 July 2002.

JP 0-2. *Unified Action Armed Forces (UNAAF)*. 10 July 2001.

JP 1-02. *Department of Defense Dictionary of Military and Associated Terms*. 12 April 2001, as amended through 14 Augst 2002. [Online] Available http://www.dtic.mil/doctrine/jel/doddict/

JP 3-0. *Doctrine for Joint Operations*. 10 September 2001.

JP 3-07. *Joint Doctrine for Military Operations Other Than War*. 16 June 1995.

JP 3-08. *Interagency Coordination during Joint Operations*. 2 volumes. 09 October 1996.

JP 3-09. *Doctrine for Joint Fire Support*. 12 May 1998.

JP 3-13. *Joint Doctrine for Information Operations*. 09 October 1998.

JP 3-14. *Joint Doctrine for Space Operations*. 9 August 2002.

JP 3-16. *Joint Doctrine for Multinational Operations*. 05 April 2000.

JP 3-33. *Joint Force Capabilities*. 13 October 1999.

JP 3-55. *Doctrine for Reconnaissance, Surveillance, and Target Acquisition Support for Joint Operations*. 14 April 1993.

JP 3-60. *Joint Doctrine for Targeting*. 17 January 2002.

JP 5-0. *Doctrine for Planning Joint Operations*. 13 April 1995.

JP 6-0. *Doctrine for Command, Control, Communications, and Computers Support to Joint Operations*. 30 May 1995.

ARMY PUBLICATIONS

Most Army doctrinal publications are available online: http://155.217.58.58/atdls.htm

DA Memo 10-1. *Executive Agent Responsibilities assigned to the Secretary of the Army*. 15 January 1997.

FM 1 (100-1). *The Army*. 14 June 2001.

FM 1-0 (12-6). *Personnel Doctrine*. 09 September 1994.

FM 1-02 (101-5-1). *Operational Terms and Graphics*. 30 September 1997.

FM 2-0 (34-1). *Intelligence and Electronic Warfare Operations*. 27 September 1994.

FM 2-01.3 (34-130). *Intelligence Preparation of the Battlefield*. 08 July 1994.

FM 3-0. *Operations*. 14 June 2001.

FM 3-07. *Stability Operations and Support Operations*. TBP. When approved, replaces FM 100-20, *Military Operations in Low Intensity Conflict*. 5 December 1990.

FM 3-07.2. *Force Protection*. TBP.

FM 3-09 (6-20). *Fire Support in the AirLand Battle.* 17 May 1988.

FM 3-13 (100-6). *Information Operations*. 27 August 1996.

FM 3-14 (100-18). *Space Support to Army Operations.* 20 July 1995.

FM 3-16 (100-8). *The Army in Multinational Operations*. 24 November 1997.

FM 3-31. *Joint Force Land Component Commander Handbook (JFLCC)*. 13 December 2001.

FM 3-34.250 (5-100). *Engineering Operations*. 27 February 1996.

FM 3-52. *Army Airspace Command and Control in the Combat Zone*. 1 August 2002.

FM 3-55. *Intelligence, Reconnaissance, and Surveillance Operations*. TBP.

FM 3-60 (6-20-10). *Tactics, Techniques, and Procedures for the Targeting Process.* 08 May 1996.

FM 3-90. *Tactics*. 4 July 2001.

FM 3-91 (71-100). *Division Operations: Tactics, Techniques, Procedures*. TBP.

FM 3-92 (100-15). *Corps Operations*. 29 October 1996.

FM 3-93 (100-7). *The Army in the Theater*. TBP.

FM 3-100.14 (100-14). *Risk Management*. 23 April 1998.

FM 3-100.16 (100-16). *Army Operational Support*. 31 May 1995. FM 3-100.16 will be superseded by portions of FM 3-93 and FM 4-0 when these manuals are republished.

FM 3-100.21 (100-21). *Contractors on the Battlefield*. 26 March 2000.

FM 4-0 (100-10). *Combat Service Support*. 03 October 1995.

FM 5-0 (101-5). *Army Planning and Orders Production*. TBP. When approved, along with FM 6-0 replaces *Staff Organizations and Operations*. 31 May 1997.

FM 6-02.71 (11-71). *Network Operations*. TBP.

FM 6-22 (22-100). *Army Leadership*. 31 August 1999.

FM 6-22.5. *Combat Stress*. 12 December 1991.

FM 6-99.2 (101-5-2). U.S. Army Report and Message Formats. 29 June 1999.

FM (11-41). *Signal Support: Echelons Corps and Below*. 18 December 1991.

FM 7-0 (25-100). *Training the Force*. 15 November 1988.

FM 7-10 (25-101). *Battle Focused Training*. 30 September 1990.

FM 7-15. *Army Universal Task List (AUTL)*. TBP.

DEPARTMENT OF DEFENSE PUBLICATIONS

DOD Directives available online: http://web7.whs.osd.mil/corres.htm

DODD 3100.10. *Space Policy*. 09 July 1999.

DODD 5100.1. *Functions of the Department of Defense and Its Major Components*. 25 September 1987.

 "DOD Principles of Information." Washington, D.C.: Government Printing Office, 01 April 1997. [Online] Available http://www/defenselink.mil/admin/about.html#PrinInfo

National Military Strategy of the United States of America, 1997. [Online] Available http://www.dtic.mil/jcs/nms

OTHER MILITARY PUBLICATIONS

Army Doctrinal Publication (UK), Volume 2. *Command*. April 1995.

Directorate of Army Doctrine Publication (Canada), CFP 300(3). *Command*. 21 July 1997.

Marine Corps Doctrinal Publication 6 (MCDP 6). *Command and Control*. 4 October 1996.

Naval Doctrine Publication 6 (NDP 6). *Naval Command and Control*. 19 May 1995.

TRADOC Pamphlet 525-70, *Battlefield Visualization Concept*. 1 October 1995.

TRADOC Pamphlet 525-200-1, *US Army Battle Dynamic Concept: Battle Command*. 1 December 1994.

PUBLIC LAWS AND OTHER PUBLICATIONS

The United States Code is available online: http://uscode.house.gov/usc.htm

Goldwater-Nichols Department of Defense Reorganization Act of 1986 (Title 10 USC, Subtitle A, Part I, Chapter 5). [Online] Available http://dtic.mil/jcs/core/title_10.html

Insurrection Act (Title 10 USC, Chapter 15).

National Security Act of 1947 (61 Stat. 495, Chapter 343; see Title 50 USC, section 401, Short Title note).

Posse Comitatus Act (Title 18 USC, section 1385).

Robert T. Stafford Disaster Relief and Emergency Assistance Act (Title 42 USC, sections 5142–5203).

Title 10 USC, Annex B, section 3013 (responsibilities of the Secretary of the Army).

NONMILITARY PUBLICATIONS

Alberts, Dr. David S., and Dr. Richard Hayes. *Command Arrangements for Peace Operations*. Washington, DC: NDU Press, 1995.

Allard, Kenneth. *Command, Control, and the Common Defense.* Revised edition. Washington, DC: NDU Press, 1996.

Barr, Donald R., and E. Todd Sherrill. "Measuring Information Gain in Tactical Operations." Technical Report. West Point, NY: Operations Research Center, 1996.

Blumenson, Martin, and James L. Stokesbury. *Masters of the Art of Command*. Boston: Houghton Mifflin Company, 1975.

Coakley, Thomas P. *Command and Control for War and Peace*. Washington, D.C.: NDU Press, 1991.

Combat Studies Institute. *Studies in Battle Command*. Fort Leavenworth, KS: US Army Command and General Staff College, 1995.

Crumley, Lloyd M., and Mitchell B. Sherman. *Review of Command and Control Models and Theory*. Fort Leavenworth, KS: Army Research Institute Field Unit, 1990.

Druzhinin, V.V., and D.S. Kontorov, *Concept, Algorithm, Decision: Decision Making and Automation*. Translated by USAF, Soviet Military Thought series. Washington, DC: GPO, 1972.

Eckhardt, Major General George S. *Vietnam Studies: Command and Control 1950-1969*. Washington, DC: Department of the Army, 1991.

FM 100-5, *Field Service Regulations, Operations*. Washington, DC: US GPO, 1941. Reprint, Fort Leavenworth, KS: US Army Command and General Staff College Press, 1992.

Franks, General Frederick M., Jr., "Battle Command: A Commander's Perspective." *Military Review*, May-June 1996. Pp. 4-25.

Fuller, J.F.C. *Generalship: Its Diseases and Their Cures*. Harrisburg, Pa: Military Service Publications Co., 1936.

Griffin, Gary B. "The Directed Telescope: A Traditional Element of Effective Command." Fort Leavenworth, KS: US Army Command and General Staff College, Combat Studies Institute, 1991.

Heinl, Robert D. *Dictionary of Military and Naval Quotations*. Annapolis: US Naval Institute Press, 1988.

The Human in Command: Exploring the Modern Military Experience. Ed. by Ross Pigeau and Carol McCann. New York City: Kluwer Academic Press, 2000.

Infantry in Battle. Ed. by E.F. Harding. 2d Ed. Richmond, VA: Garrett & Massie, 1939. Reprint, Fort Leavenworth, KS: US Army Command and General Staff College, 1981.

Ivanov, D.A., et. al., *Fundamentals of Tactical Command and Control: A Soviet View*. Translated by USAF, Soviet Military Thought series. Washington, DC: GPO, 1977.

Kahan, James P., D. Robert Worley, and Cathleen Stasz. *Understanding Commander's Information Needs*. Arroyo Center: RAND, 1995.

Klein, Gary. *Sources of Power: How People Make Decisions*. Cambridge: MIT Press, 1998.

Leedom, Dr. Dennis K., James Murphy, Bill Killam, and Dr. Leonard Adelman. *Final Report: Cognitive Engineering of the Human-Computer Interface for ABCS*. Amdover, MA: Dynamics Research Corporation, 1998.

Metz, John M. *Humanitarian Assistance Operations: A Command and Control Dilemma*. Unpublished MMAS Thesis. Fort Leavenworth, KS: CGSC, 1995.

Nye, Roger H., *The Challenge of Command: Reading for Military Excellence*. New York: Avery Penguin Putnam, 1986.

Sajo, James R. *The Command Post: A Comparison of Tactical Commmand Post Doctrine of the US and Soviet Armies*. Unpublished Thesis. Monterey, CA: Naval Postgraduate School, 1988.

Samuels, Martin. *Command or Control? Command, Training, and Tactics in the British and German Armies, 1888-1918*. London: Frank Cass & Co., 1995.

Snyder, Frank M. *Command and Control: The Literature and Commentaries*. Washington, DC: NDU Press, 1993.

Van Creveld, Martin. *Command in War*. Cambridge, MS: Harvard University Press, 1985.

Ware, Howard L. III. *Command Presence: Where Should the Operational Commander be Located on the Modern Battlefield?* Unpublished Monograph. Fort Leavenworth, KS: SAMS, 1989.